GLOBAL IMPORT AUTO PARTS
AKA: STAG'S AUTO RADIATOR
FLD057973646
PRELIMINARY ASSESSMENT REASSESSMENT

1297

A. SITE DESCRIPTION. The site is located at 941 N.W. 40th Avenue, Plantation, Broward County, Florida (Fig. 1). The facility operated as a radiator repair shop from, at least, 1975 to 1977 [1,2,3,8-12, 17-24, 27,28]. Since 1977, the facility has been used as a ceramics shop, a roofing business and most recently, an auto parts shop [8,9,30]. The site was reportedly inactive on 4/5/89 [8].

B. DESCRIPTION OF HAZARDOUS CONDITIONS, INCIDENTS AND PERMIT VIOLATIONS. Steam cleaning and radiator flushing were performed in the facility parking lot [18,19,27]. Wastewater containing muriatic (hydrochloric) acid, iron, sludge, caustic soda (sodium hydroxide), and lead from solder was discharged at a rate of 120 gallons/day [2] into 2 french drain systems [1,2,3,9,17]. Overflow from the drainage system intermittently pooled on the surface of the parking lot [1,2,9,10,11,12].

The Broward County Pollution Control Board issued a Notice of Violation to the facility on 6/3/76 to address unlawful discharges of industrial waste into surface and groundwaters [1]. Numerous follow-up inspections were conducted on-site by Broward County, until operations were relocated next door in 1977 [8] and to Oakland Park in 1980 [21-24]. FDER observed facility conditions on 7/30/85 and 4/5/89 [8].

No information, concerning the operation of the ceramics, roofing or auto parts shops, is available [8,9].

C. RCRA STATUS. The site has no RCRA status [25,26].

D. NATURE OF HAZARDOUS MATERIALS. Lead is toxic, persistent and bioaccumulative. Kidneys, blood, gingival tissue, and gastrointestinal/central nervous systems can be affected through ingestion, inhalation and skin/eye contact [8,9,10].

Mercury is an experimental equivocal tumorgenic agent and a general protoplasmic poison which can affect the kidneys, central nervous system and gastrointestional tract [13]. Toxicological effects are largely dependent upon the route of exposure and the chemical form of mercury involved [13-18].

Ethylene Glycol is toxic via ingestion and inhalation, however, percutaneous absorption may contribute to intoxication [14]. Toxic effects from inhalation are only likely to occur if the compound is heated [14]. Ingestion can result in depression, respiratory and cardiac failure, renal and brain damage, and death. A lethal dose is considered to be 100 ml [14,15].

Hydrochloric acid and sodium hydroxide are highly corrosive [13].

E. ROUTES OF CONTAMINATION. Groundwater, surface water and direct contact are potential routes of exposure [8].

F. POTENTIALLY AFFECTED POPULATION AND RESOURCES. The site is primarily underlain by 300-400 ft. of Pleistocene to Miocene sand and limestone, which comprise the shallow, unconfined Biscayne aquifer[6]. This aquifer is the sole-source of drinking water in Broward County [6]. Public water supply wells, serving the cities of Ft. Lauderdale (pop. 226,430 [5]) and Plantation (pop. 35,000 [5]), as well Broward County (10,608 connections in the District 1A area), tap the Biscayne aquifer within a 3-mile radius of the site (Fig. 1) [3-5]. The nearest potable supply well is located approximately 6146 Ft. South-Southwest of the site (Fig. 1) [3].

Potentially contaminated stormwater runoff could discharge into the Sunrise Canal (C-12), which is approximately 80 ft. north of the facility (Fig. 1). No surface water use has been identified for C-12, and no surface water intakes are within 3 downstream miles of the site [7].

Although a portion of the site is fenced, the fence appears to be in disrepair (FDER photographs -7/85), and a visibly stained area of the parking lot is not fenced [8].

G. RECOMMENDATIONS AND JUSTIFICATION. A large volume of wastewater [2] containing potentially hazardous and persistent contaminants [1,13-15] were discharged into the sole-source Biscayne aquifer [6]. Subsequently the facility, for which no public sewer system has been provided, operated as ceramics and roofing shops [8,9]. The latter activities could have conceivably widened the variety of contaminants potentially discharged to the Biscayne aquifer. Because of the near proximity of municipal drinking water supply wells (Fig. 1) [3,4,5] and the considerable potential for the pollution of adjacent surface water (Fig. 1), a medium priority for a CERCLA Site Screening Inspection is recommended.

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT REASSESSMENT
Part 1 - Site Information and Assessment

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
FL	D057973646

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common or descriptive name of site)	02 Street, Route No., or Specific Location Identifier				
Global Import Auto Parts AKA: Stag's Auto Radiator [30]	941 N.W. 40th Avenue				
03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Plantation	FL	33333	Broward	011	15
09 COORDINATES LATITUDE	LONGITUDE				
26° 08' 04". 0"	080° 12' 11". 0"				

10 DIRECTIONS TO SITE (Starting from nearest public road)
Follow US 441 in Plantation to the junction of Sunrise Blvd. The site is located southwest of the junction, behind the Amoco Service Station [8,30].

III RESPONSIBLE PARTIES

01 OWNER (if known)	02 STREET (Business, mailing, residential) - City Hall		
Richard & Rita Case [31]	949 Hillsboro Mile		
03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER
Hillsboro Beach	FL	33062	( ) Unlisted
07 OPERATOR (if known and different from owner)	08 STREET (Business, mailing, residential)		
Global Import Auto Parts	941 N. State Road 7 [30]		
09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER
Plantation	FL	33333	(305) 584-0775

13 TYPE OF OWNERSHIP (Check one)
X A. Private __ B. Federal _____ (Agency name) __ C. State __ D. County __ E. Municipal
__ F. Other _____ (Specify) __ G. Unknown

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)
__ A. RCRA 3001 DATE RECEIVED ___/___/___ Month Day Year __ B. UNCONTROLLED WASTE SITE DATE RECEIVED ___/___/___ Month Day Year X C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION
X YES DATE 8 /26/ 75 [9] Month Day Year
__ NO

BY (Check all that apply)
__ A. EPA __ B. EPA CONTRACTOR __ C. STATE ___ D. OTHER CONTRACTOR
X E. LOCAL HEALTH OFFICIAL __ F. OTHER _____ (Specify)
CONTRACTOR NAME(S): _____

02 SITE STATUS (Check one)
__ A. ACTIVE X B. INACTIVE [8] __ C. UNKNOWN

03 YEARS OF OPERATIONS
1975 / 1977
Beginning Year Ending Year
__ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN OR ALLEGED

Lead, mercury and ethylene glycol could be present on-site, as a result of former on-site activities [1,2,3,9, 17].

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION - Contaminants from a radiator shop were discharged directly into the Biscayne aquifer [1,2,3,9,17-19,27]. Overflow from the drainage systems pooled at the surface of the parking lot [1,2,9-12]. The site is adjacent to the Sunrise canal and within 3 miles of municipal wells serving a large population (Fig. 1) [3-6].

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)

__ A. HIGH	X B. MEDIUM	__ C. LOW	__ D. NONE
(Inspection required promptly)	(Inspection required)	(Inspect on time available basis)	(No further action needed, complete disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NUMBER		
Eric S. Nuzie	FDER/BWC	(904) 488-0190		
04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
Craig F. Feeny	FDER	BWC	(904) 488-0190	7 /14 /89 Month Day Year

EPA FORM 2070-12(7-81)

REFERENCES

GLOBAL IMPORT AUTO PARTS
AKA: STAG'S AUTO RADIATOR
FLD057973646

1. Broward County Pollution Control Board, 6/3/76. Notice of Violation (Inspection Work Sheet attached).

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3. Marchese, 11/75. Blueprint: Raw Water Well Use Permits - City of Ft. Lauderdale.

4. Reese, K.B., 7/16/87. Letter to A.J. McCarthy.

5. Healy, H.G., 1977. Public Water Supplies of Selected Municipalities in Florida, 1975. USGS Water-Resources Investigations 77-53.

6. Sherwood, C.B., H.J. McCoy, and C.F. Galliher, 1973. Water Resources of Broward County, Florida. FBOG/USGS Report of Investigation No. 65.

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9. Broward County Pollution Control Board (BCPCB), 8/26/75, 1/8/76, 9/1/76, 11/18/76, 3/21/77 and 3/15/79. Inspection Work Sheets.

10. Ray, 4/27/76. Transmittal Slip.

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14 Sittig, M., 1985. Handbook of Toxic and Hazardous Chemicals and Carcinogens, Second Edition.

15. Hawley, G.G., 1981. The Condensed Chemical Dictionary, Tenth Edition.

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17. BCPCB, 9/15/76. Inspection Work Sheet.

18. BCPCB, 6/24/77. Inspection Work Sheet.

19. BCPCB, 9/27/77. Inspection Work Sheet.

20. BCPCB, 11/15/78. Inspection Work Sheet.

21. BCPCB, 6/26/79. Inspection Work Sheet.

22. BCPCB, 10/28/80. Inspection Work Sheet.

23. BCPCB, 1/20/81. Industrial Sludge Survey.

24. BCPCB, 4/30/81. Facility Inspection Report.

25. Florida Department of Environmental Regulation (FDER), 5/3/89. RCRA Facility Permit Application Tracking Log - Active Facilities Application List.

26. FDER, 12/8/86. HWR07A - HWDMS Listing.

27. BCPCB, 4/26/76. Inspection Work Sheet.

28. BCPCB, 6/25/76. Inspection Work Sheet.

29. Visher, F.N. and G.H. Hughes, 1975. The Difference Between Rainfall and Potential Evaporation in Florida, Second Edition. USGS/FBOG Map Series No. 32.

30. Southern Bell, 1989. Greater Ft. Lauderdale Yellow Pages.

31. Markham, W. to C. Feeny. 8/2/89. Broward County Property Appraiser - Ownership Information about Global Import Auto Parts Site.

HAZARD RANKING SYSTEM SCORING SUMMARY

FOR

STAG'S AUTO RADIATOR
EPA SITE NUMBER FLD057973645
PLANTATION
BROWARD COUNTY, FL
EPA REGION: 4

SCORE STATUS: IN PREPARATION

SCORED BY CRAIG FEENY
OF FDER
ON 05/17/89

DATE OF THIS REPORT: 05/17/89
DATE OF LAST MODIFICATION: 05/17/89

GROUND WATER ROUTE SCORE	:	51.02
SURFACE WATER ROUTE SCORE	:	0.00
AIR ROUTE SCORE	:	0.00
MIGRATION SCORE	:	35.87

HRS GROUND WATER ROUTE SCORE

CATEGORY/FACTOR	RAW DATA	MSN. VALUE	SCORE
1. OBSERVED RELEASE	NO	0	0
2. ROUTE CHARACTERISTICS			
DEPTH TO WATER TABLE	5 FEET (Fig.1)(Ref.6(p.62)		
DEPTH TO BOTTOM OF WASTE	5 FEET (Ref. 2)		
DEPTH TO AQUIFER OF CONCERN	0 FEET	3	6
PRECIPITATION	9.0 INCHES (Ref.29)		
EVAPORATION	0.0 INCHES		
NET PRECIPITATION	9.0 INCHES	1	1
PERMEABILITY (Ref.6)	1.0X10-3 CM/SEC	2	2
PHYSICAL STATE (Ref.1,2,9-12,17-24,27,28)		2	2
TOTAL ROUTE CHARACTERISTICS SCORE:			13
3. CONTAINMENT (Ref.1,2,9-12,17-24,27,28)		3	3
4. WASTE CHARACTERISTICS			
TOXICITY/PERSISTENCE: IRON & COMPOUNDS, NOS (Ref.1)			18
WASTE QUANTITY CUBIC YDS	0		
DRUMS	0		
GALLONS	62400 (Ref.2)		
TONS	0		
TOTAL	312 CU. YDS	1	5
TOTAL WASTE CHARACTERISTICS SCORE:			33
5. TARGETS			
GROUND WATER USE		3 (Ref.6)	9
DISTANCE TO NEAREST WELL AND TOTAL POPULATION SERVED	6146 FEET (Fig.1)(Ref.3) MATRIX VALUE 301740 PERSONS (Ref.4,5)	30	30
NUMBER OF HOUSES	0		
NUMBER OF PERSONS	261430 (Ref.5)		
NUMBER OF CONNECTIONS	10608 (Ref.4)		
NUMBER OF IRRIGATED ACRES	0		
TOTAL TARGETS SCORE:			39

GROUND WATER ROUTE SCORE (Sgw) = 61.06

SITE: STAG'S AUTO RADIATOR

PAGE

HRS SURFACE WATER ROUTE SCORE

CATEGORY/FACTOR	RAW DATA	ASN. VALUE	SCORE
1. OBSERVED RELEASE	ROUTE NOT SCORED		N/A
2. ROUTE CHARACTERISTICS			
SITE LOCATED IN SURFACE WATER			
SITE WITHIN CLOSED BASIN			
FACILITY SLOPE			
INTERVENING SLOPE			
24-HOUR RAINFALL			
DISTANCE TO DOWN-SLOPE WATER			
PHYSICAL STATE			
TOTAL ROUTE CHARACTERISTICS SCORE:			N/A
3. CONTAINMENT			N/A
4. WASTE CHARACTERISTICS			
TOXICITY/PERSISTENCE:			
WASTE QUANTITY	CUBIC YDS		
	DRUMS		
	GALLONS		
	TONS		
	TOTAL		
TOTAL WASTE CHARACTERISTICS SCORE:			N/A
5. TARGETS			
SURFACE WATER USE			
DISTANCE TO SENSITIVE ENVIRONMENT			
COASTAL WETLANDS			
FRESH-WATER WETLANDS			
CRITICAL HABITAT			
DISTANCE TO STATIC WATER			
DISTANCE TO WATER SUPPLY INTAKE			
AND		MATRIX VALUE	
TOTAL POPULATION SERVED			
NUMBER OF HOUSES			
NUMBER OF PERSONS			
NUMBER OF CONNECTIONS			
NUMBER OF IRRIGATED ACRES			
TOTAL TARGETS SCORE:			N/A

SURFACE WATER ROUTE SCORE (Ssw) = 0.00

SITE: STAG'S AUTO RADIATOR

PAGE

HRS AIR ROUTE SCORE

CATEGORY/FACTOR	RAW DATA	MGN. VALUE	SCORE
1. OBSERVED RELEASE	NO	0	0
2. WASTE CHARACTERISTICS			
REACTIVITY:		MATRIX VALUE	
INCOMPATIBILITY			
TOXICITY			
WASTE QUANTITY CUBIC YARDS			
DRUMS			
GALLONS			
TONS			
TOTAL			
TOTAL WASTE CHARACTERISTICS SCORE:			N/A
3. TARGETS			
POPULATION WITHIN 4-MILE RADIUS			
0 to 0.25 mile			
0 to 0.50 mile			
0 to 1.0 mile			
0 to 4.0 miles			
DISTANCE TO SENSITIVE ENVIRONMENTS			
COASTAL WETLANDS			
FRESH-WATER WETLANDS			
CRITICAL HABITAT			
DISTANCE TO LAND USES			
COMMERCIAL/INDUSTRIAL			
PARK/FOREST/RESIDENTIAL			
AGRICULTURAL LAND			
PRIME FARMLAND			
HISTORIC SITE WITHIN VIEW?			
TOTAL TARGETS SCORE:			N/A

AIR ROUTE SCORE (Sa) = 0.00

HAZARD RANKING SYSTEM SCORING CALCULATIONS
FOR
SITE: STAG'S AUTO RADIATOR
AS OF 05/17/89

GROUND WATER ROUTE SCORE

ROUTE CHARACTERISTICS		13
CONTAINMENT	X	3
WASTE CHARACTERISTICS	X	23
TARGETS	X	39
	=	34983 /57,330 X 100 = 61.02 = S1gw

SURFACE WATER ROUTE SCORE

ROUTE CHARACTERISTICS		0
CONTAINMENT	X	0
WASTE CHARACTERISTICS	X	0
TARGETS	X	0
	=	0 /64,350 X 100 = 0.00 = S1sw

AIR ROUTE SCORE

OBSERVED RELEASE 0 /35,100 X 100 = 0.00 = S1air

SUMMARY OF MIGRATION SCORE CALCULATIONS

	S	S02
GROUND WATER ROUTE SCORE (S1gw)	61.02	3723.44
SURFACE WATER ROUTE SCORE (S1sw)	0.00	0.00
AIR ROUTE SCORE (S1air)	0.00	0.00
S021gw + S021sw + S021air		3723.
J (S021gw + S021sw + S021air)		61.
S1M = J (S021gw + S021sw + S021air)/1.73		35.27

OVERSIZED

DOCUMENT

Maps

Figure 1

500 S.W. 14th Court
Fort Lauderdale, Florida
Phone 765-5881

ISSUED TO JAY THOMS

Reference 1

6/3/76

6-3-76

Name: STAG'S RADIATOR

'ION WORK SHEET

Address: 941 D. N.W 40th AVE Aga STATION #1A.

Location of Violation (ADDRESS SAME) WEST SIDE OF BLDG.

Source No. 331

ou are hereby notified that you are in violation of Chapter 65-1338, aws of Florida, Special Acts of 1965, as amended, by causing pollution at he above location, on this date, to wit:

UNLAWFUL DISCHARGE OF INDUSTRIAL WASTE ONTO SURFACE AND GROUND WATERS.

ed Emission Point Data Sheet

Problem Points ____ ____ ____ ____ ____

n violation of Section 4-1 (1) of the

ode of Regulations of the Broward County Pollution Control Board / Rule ____ of the Florida Department of Pollution

4. _____ Yes ____ No ____

5. _____ Yes ____ No ____

6. _____ Yes ____ No ____

ve action and compliance schedule:

ontrol, at the above described location on June 3, 1976 Date

4:45 P.M. Time

hed-up a PVC pipe running from of his bldg to act as a overflow the amount of water being discharged, ater thru the overflow onto the procedure prevents their parking

☐ The aforesaid violation shall be rectified and stopped within _____.

2. ☐ The operation causing the aforesaid violation shall immediately cease.

☑ Within (6-14-76) 10 days you must submit to the Board in writing, your proposed plan of operation which will eliminate the pollution condition specified above.

lure to comply may result in criminal prosecution or a civil penalty of o to $5,000.00 a day for each day of violation.

y discharged directly on to waste beside water, containing iron, sludgy material, and oda, the N.O.V #0446 OVER

Victor N. Howard
Victor N. Howard, P.E.
Pollution Control Officer

by: Rich Hackt
Inspector

ed this 3RD day of June, 19 76, at 4:30 P.M

200

Person Contacted: Jay Thomas Owner Title

Next Contact Date: 6-17-76 Rich Hackt Inspector

OFFICE USE ONLY

Referred to: ☐ Air ☐ Water (Engineering) Date: _____

N.O.V. Sent: ☐ Yes ☐ No Date: _____

16:05

Time Out 17:00

Date 6-3-76

FACILITY INSPECTION WORK SHEET

Source Name Stop Radiator Source No. 331

☐ Checked Permit Conditions ☑ Checked Emission Point Data Sheet

Utilized Inspection Point Sheet No. ____ Problem Points ____ ____ ____ ____ ____

Present Pollution Control Device Efficiency

1. Spray rack	Yes ✓	No ____	4. ____	Yes ____	No ____
2. French drain	Yes ✓	No ____	5. ____	Yes ____	No ____
3 Attached overflow	Yes ____	No ✓	6. ____	Yes ____	No ____

Comments regarding problem points, corrective action and compliance schedule:

Problem Points (where): Owner has hooked-up a PVC pipe running from the french drain to west side of his bldg to act as a overflow line. When drain cannot handle the amount of water being discharg. a sump pump pumps waste water thru the overflow onto the

Corrective Action (what): ground. This procedure prevents their parking lot from being flooded.

Because their waste is being discharged directly on to ground off their property and waste beside water, containing

Compliance (when): muriatic acid, iron, sludgy material, and Rust Bldg containing caustic soda, the N.O.V #0446 over

Person Contacted: Jay Thomas Owner (Title)

Next Contact Date: 6-17-76 Rich Hacht (Inspector)

OFFICE USE ONLY

Referred to: ☐ Air ☐ Water (Engineering) Date: ____

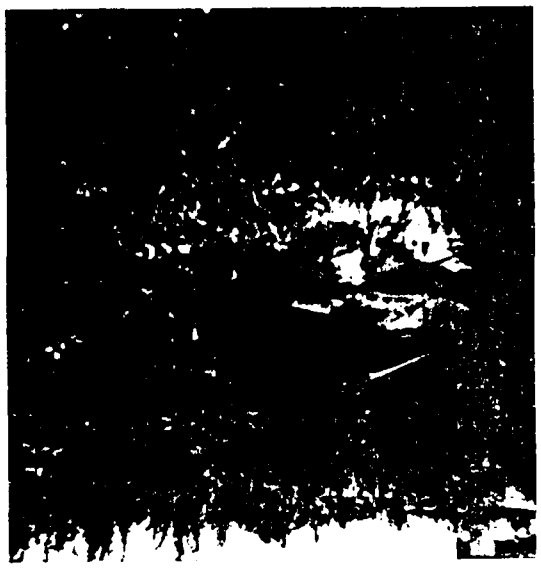
N.O.V. Sent: ☐ Yes ☐ No Date: ____

was issued for unlawful discharge of industrial waste on to ground surface.

Mr. Thomas insists that because sanitary sewers are not available to him, domestic sewage drainfield takes-up his parking lot and remainning portion of property has no space for an added drainfield; he has no other means of discharging his wastes.

Within 10 days he will send a letter to our office explaining his situation and a Chemical break-down from manufacturer of the products he uses.

Presently, a rinse tank and radiator having Rust-Blitz in it, were being flushed-out. Waste waters are running from p.v.c pipe onto ground on west side of bldg.



Reference 2

June 10, 1976

Stag's Auto Radiator
941 N State Road 7
Plantation, Florida

Enviramental Quality Control Board
500 SW14 Court
Ft Lauderdale, Florida

Gentlemen:

Per your request for a chemical analysis of the waste that goes into the French drain in our parking lot, we have enclosed the analysis from the manufactor. *

As you can see the chemical is completely water soluble. The following steps take place before the water is exhausted into the drain:

1) The cleaning chemical is placed in a cleaning tank and diluted at the ratio of 1 3/4 lbs to 130 gallons of water. This acid tank has no drain or overflow and is never emptied.

2) After a radiator is soaked in the acid bath, the radiator is removed and all excess solution is shook out of the radiator back into the tank.

3) The radiator is then placed in a flush booth and flushed. This operation takes approximately 20 gallons of water.

4) The radiator is then placed in a test tank of nothing but well water.

5) The only thing exhausted outside into the drain is well water and dirt from the interior of radiators.

Stag's Radiator cleans an average of 4 to 5 radiators per day. Therefore I submit the following figures:

Approximately 120 gallons of well water is exhausted per day thru the flush booth and overflow on the test tanks and of this amount approximately 8 ozs. of it is diluted acid.

All fluid goes into a French drain which is 5' deep. If the ground will not absorb the fluid pumped into the drain and the water level rises over 2', only at this time, the excess is pumped into a field west of the shop.

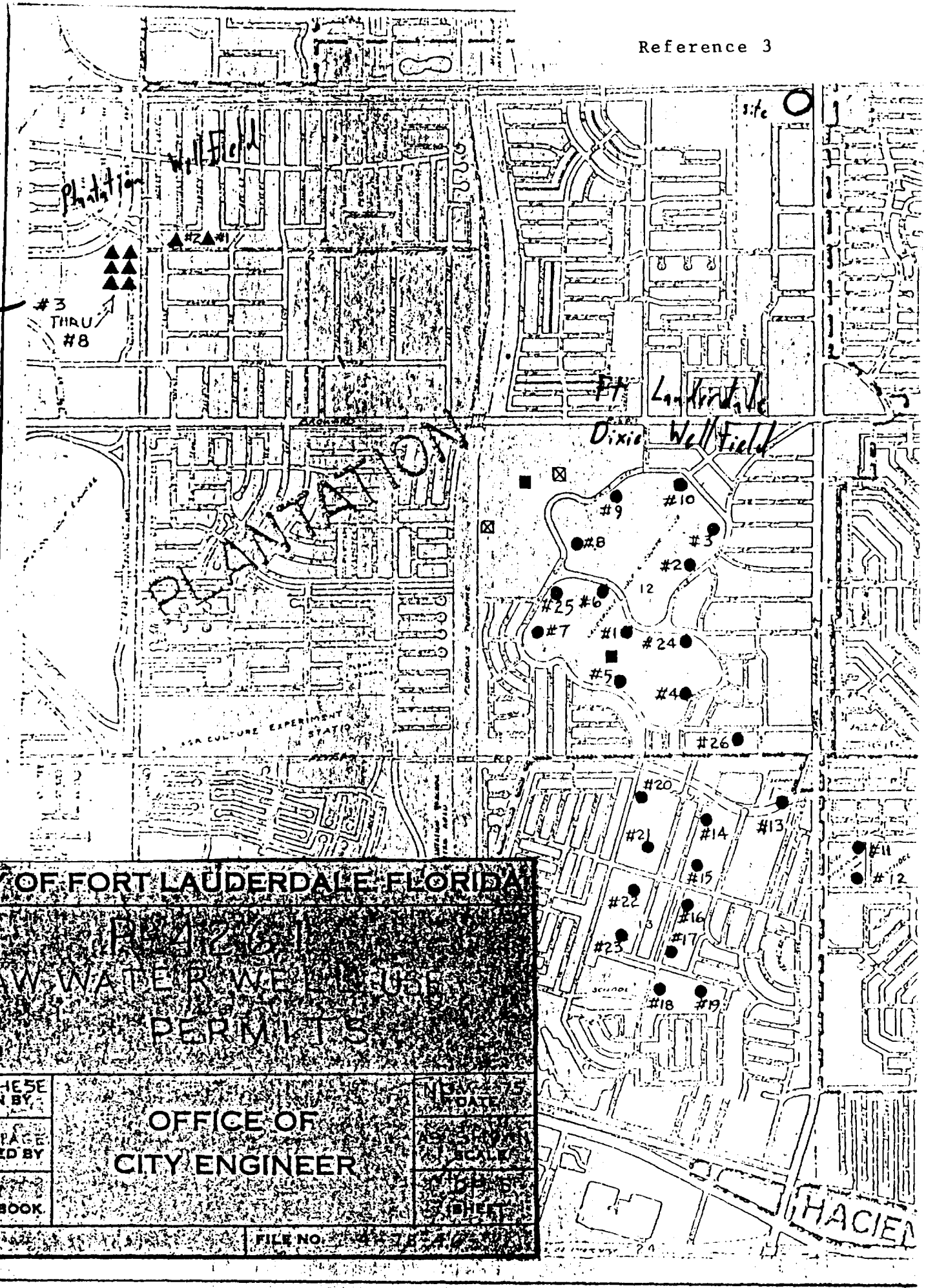
* No Analysis was found in local file.

If there are any further questions or you require any more information, I am at your disposal.

Sincerely,

Jay S Thoms/owner
Stag's Radiator

Reference 3



CITY OF FORT LAUDERDALE, FLORIDA

PROPOSED RAW WATER WELL USE PERMITS

MARCHESE DRAWN BY	OFFICE OF CITY ENGINEER	NOV. '75 DATE
MARRIAGE CHECKED BY		AS SHOWN SCALE
FIELD BOOK		DH SHEET
	FILE NO.	

Reference 4

Utilities Division
2401 N. Powerline Road
Pompano Beach, Fla. 33069
(305) 971-6220

July 16, 1987

Mr. A. James McCarthy
Environmental Specialist
Bureau of Operations
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Dear Mr. McCarthy:

Enclosed, please find the information you requested. I would like to clarify one point. The District 1C plant is out-of-service and will not be utilized in the future. The two wells will be abandoned in the approved manner in the very near future. The wells are on plant site and are maintained by maintenance crews on a monthly basis. The site is located on the topo maps for your information only.

The number of service connections for each facility are as follows:

District 1A	10,608
District 1B	3,366
District 2A	17,019
Broadview	2,199
District 3A	5,250
District 3B	6,037
District 3C	3,646

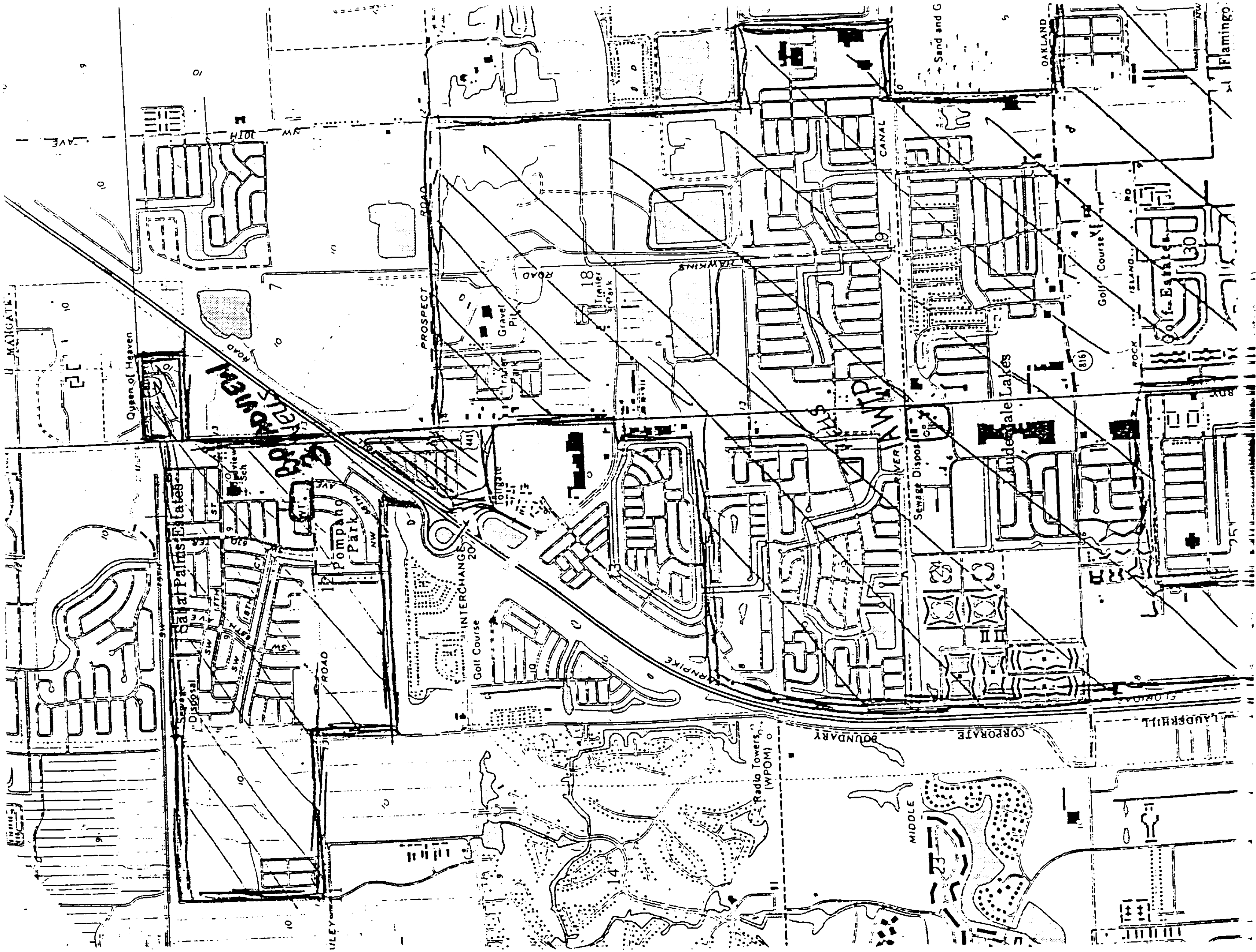
Should you require more information, please do not hesitate to contact me at 305-971-6220, ext. 282.

Sincerely yours,

Kathleen B. Reese

Kathleen B. Reese
Special Projects Coordinator III

KBR/tgt
cc: Michael J. Scottie
Ralph A. Piacente



MARGATE
Queen of Heaven
PROSPECT ROAD
Gravel Pit
Trailer Park
HAWKINS ROAD
CANAL
OAKLAND
Sand and G
Flamingo
Golf Course
Golf Estates
ROCK ISLAND RD
816
Lauderdale Lakes
Sewage Disposal Co.
RIVER
Pompano Park
Safari Palms Estates
Sewage Disposal
ROAD
Tollgate
INTERCHANGE 20
Golf Course
TURNPIKE
BOUNDARY
CORPORATE
LAUDERHILL
Radio Towers (WPOM)
MIDDLE

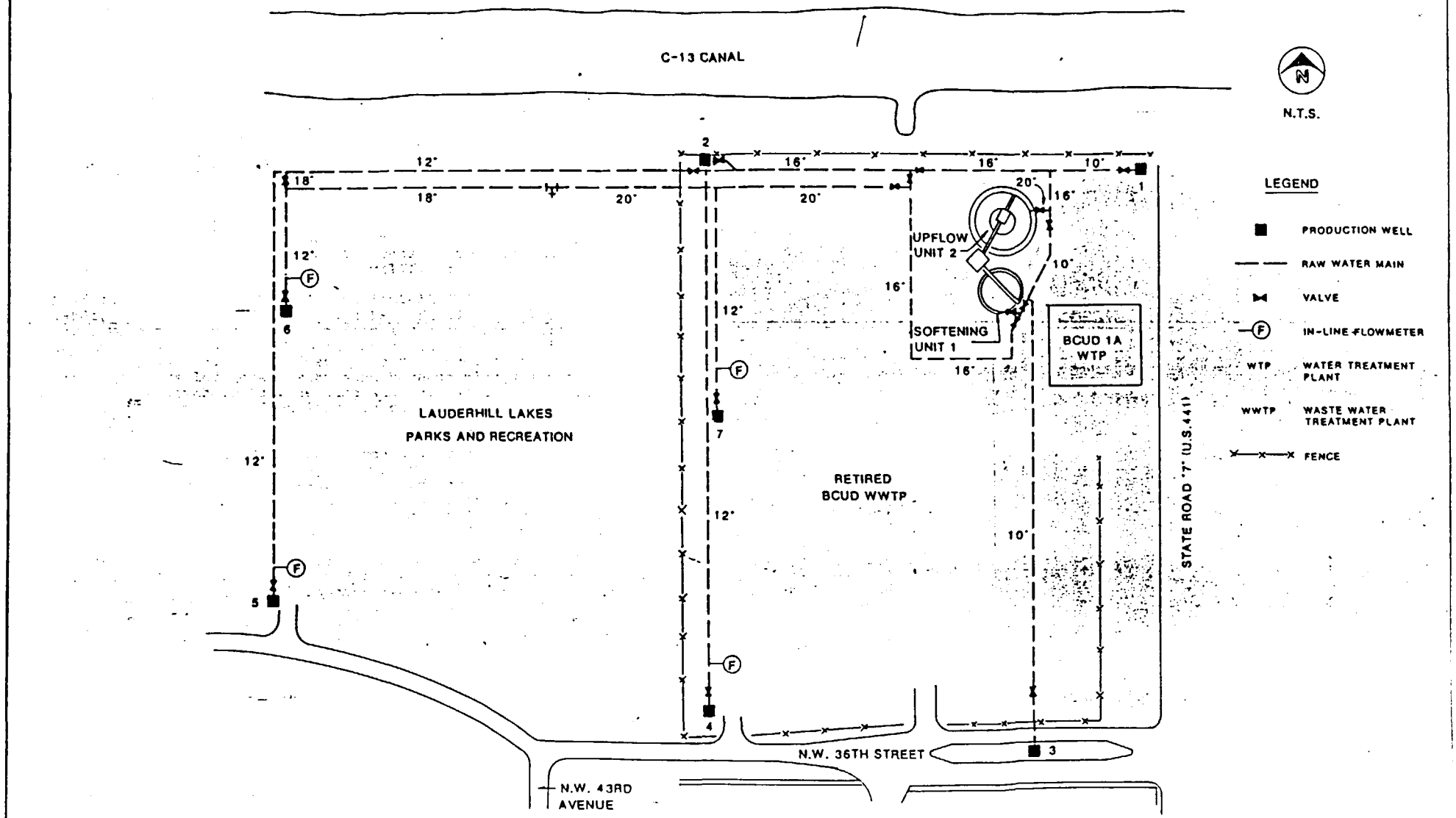


FIGURE 7-1

BCUD-1A WELLFIELD AND RAW WATER PIPING CONFIGURATION

Reference 5

PUBLIC WATER SUPPLIES OF SELECTED MUNICIPALITIES IN FLORIDA, 1975

By Henry G. Healy

U.S. GEOLOGICAL SURVEY

WATER-RESOURCES INVESTIGATIONS 77-53

Prepared in cooperation with

FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION
SOUTH FLORIDA WATER MANAGEMENT DISTRICT
SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
ST JOHNS RIVER WATER MANAGEMENT DISTRICT
SUWANNEE RIVER WATER MANAGEMENT DISTRICT
NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
AND OTHER STATE, LOCAL, AND FEDERAL AGENCIES

July 1977

FORT LAUDERDALE

County: Broward **Population served:** 226,430
River basin: Everglades and southeastern coastal area (09 02 02)

Ownership of supply or system: Municipal
Source of water: Ground water, Biscayne aquifer; 59 wells, 75 to 189 feet deep; yield 400 to 2,100 gal/min

Rated plant capacity: 60 Mgal/d
Pumpage: Year— 16,798.39 Mgal **Average daily—** 46.02[a/] Mgal
Highest month: April, 1,822.2 Mgal **Lowest month:** October, 1,172.3 Mgal

gal

Per capita use: 203 gal/d
Finished-water storage: 20 Mgal
Treatment: Aeration, chlorination, coagulation, filtration, flocculation, pH control, softening, taste and odor control

Type/Frequency of analysis: Bacteriological, chemical, color, and turbidity/ daily; spectrographic/30 times yearly
Sewage discharge: 16.97 Mgal/d (5 sewage treatment plants)
Sewage treatment: Chlorination, clarification, comminution (all); activated sludge, drying, grit chamber, skimming (2); aeration, digestion (3); contact stabilization, incineration (1)
Waste discharged to: North Fork New River Canal; Intracoastal Waterway (2); South Fork New River; North Fork Middle River
Remarks: Average daily pumpage increased from 17.10 Mgal/d in 1956 to 46.0 Mgal/d in 1975. City supplied at total of 6.576 mgd to Wilton Manors, Oakland Pk, Lazy Lake and Tamarac. City also supplies Lauderdale-by-the-sea, Sea Ranch Lake, Ft. Lauderdale-Hollywood airport and Port Everglades. Supplementary supply for Dania, Plantation and Broward County Utilities Dept. (fig 24). Leach and others (1972), Sherwood and others (1973). a/ Combined pumpage, Dixie and Prospect Well Fields.

CHEMICAL ANALYSIS (milligrams per liter except as indicated)

ANALYSIS BY: U.S. Geological Survey **COLLECTION DATE:** 6-12-75
SAMPLING POINT: 261044080092001, Prospect water plant

Silica (SiO_2)	9.7	Dissolved solids (residue at 180°C)	388
Calcium (Ca)	100	Total hardness (as $CaCO_3$)	260
Magnesium (Mg)	2.8	Noncarbonate hardness (as $CaCO_3$)	15
Sodium (Na)	19	Alkalinity (as $CaCO_3$)	245
Potassium (K)	1.5	pH (units)	7.4
Strontium (Sr)	.78	Specific conductance (μmhos/cm at 25°C)	619
Bicarbonate (HCO_3)	299	Color (Pt-Co units)	45
Sulfate (SO_4)	26	Temperature (°C)	--
Chloride (Cl)	33	Turbidity (JTU)	--
Fluoride (F)	.3	Carbon, organic, total (C)	--
Nitrate (NO_3-N)	.01	Orthophosphate total (PO_4-P)	--
Nitrite (NO_2-N)	.00		
Nitrogen, organic (N)	--		
Nitrogen (ammonia, total (NH_4-N))	.63		
Iron (Fe)	1.8		
Phosphorus, total (P)	--		

PLANTATION

County: Broward **Population served:** 35,000
River basin: Everglades and southeastern coastal area (09 02 02)

Ownership of supply or system: Municipal
Source of water: Ground water, Biscayne aquifer; 8 wells, 74 to 95 feet deep; yield 525 to 750 gal/min

Rated plant capacity: 7 Mgal/d
Pumpage: **Year**—1,892.89 Mgal **Average daily**— 5.19[a] Mgal
Highest month: March, 210.5 Mgal **Lowest month:** October, 129.9 Mgal

Per capita use: 148 gal/d
Finished-water storage: 1.85 Mgal
Treatment: Aeration, chlorination, filtration, softening, fluoridation

Type/Frequency of analysis: Bacteriological daily[b]; chemical, color, turbidity/ annually; bacteriological/twice weekly[c]
Sewage discharge: 2.0 Mgal/d
Sewage treatment: Activated sludge, aeration, chlorination, contact stabilization, drying, polishing pond, secondary

Waste discharged to: Holloway Canal

Remarks: Average daily pumpage increased from 0.05 Mgal/d in 1956 to 5.19 Mgal/d in 1975.

a/ Includes 0.726 Mgal/d commercial use.
b/ Treated water.
c/ Raw water.

CHEMICAL ANALYSIS (milligrams per liter except as indicated)

ANALYSIS BY: U.S. Geological Survey **COLLECTION DATE:** 6-12-75
SAMPLING POINT: 260738080140701, Plantation Water Plant

Silica (SiO_2)	8.6	Dissolved solids (residue at 180°C)	416
Calcium (Ca)	110	Total hardness (as $CaCO_3$)	287
Magnesium (Mg)	2.8	Noncarbonate hardness (as $CaCO_3$)	38
Sodium (Na)	27	Alkalinity (as $CaCO_3$)	249
Potassium (K)	.8	pH (units)	7.5
Strontium (Sr)	.89	Specific conductance (μmhos/cm at 25°C)	668
Bicarbonate (HCO_3)	304	Color (Pt-Co units)	95
Sulfate (SO_4)	24	Temperature (°C)	--
Chloride (Cl)	48	Turbidity(JTU)	--
Fluoride (F)	.3	Carbon, organic, total (C)	--
Nitrate (NO_3-N)	.00	Orthophosphate total (PO_4-P)	--
Nitrite (NO_2-N)	.00		
Nitrogen, organic (N)	--		
Nitrogen (ammonia, total (NH_4-N))	.9		
Iron (Fe)	1.9		
Phosphorus, total (P)	--		

STATE OF FLORIDA
DEPARTMENT OF NATURAL RESOURCES
Randolph Hodges, *Executive Director*

DIVISION OF INTERIOR RESOURCES
Robert O. Vernon, *Director*

BUREAU OF GEOLOGY
C. W. Hendry, Jr., *Chief*

Report of Investigation No. 65

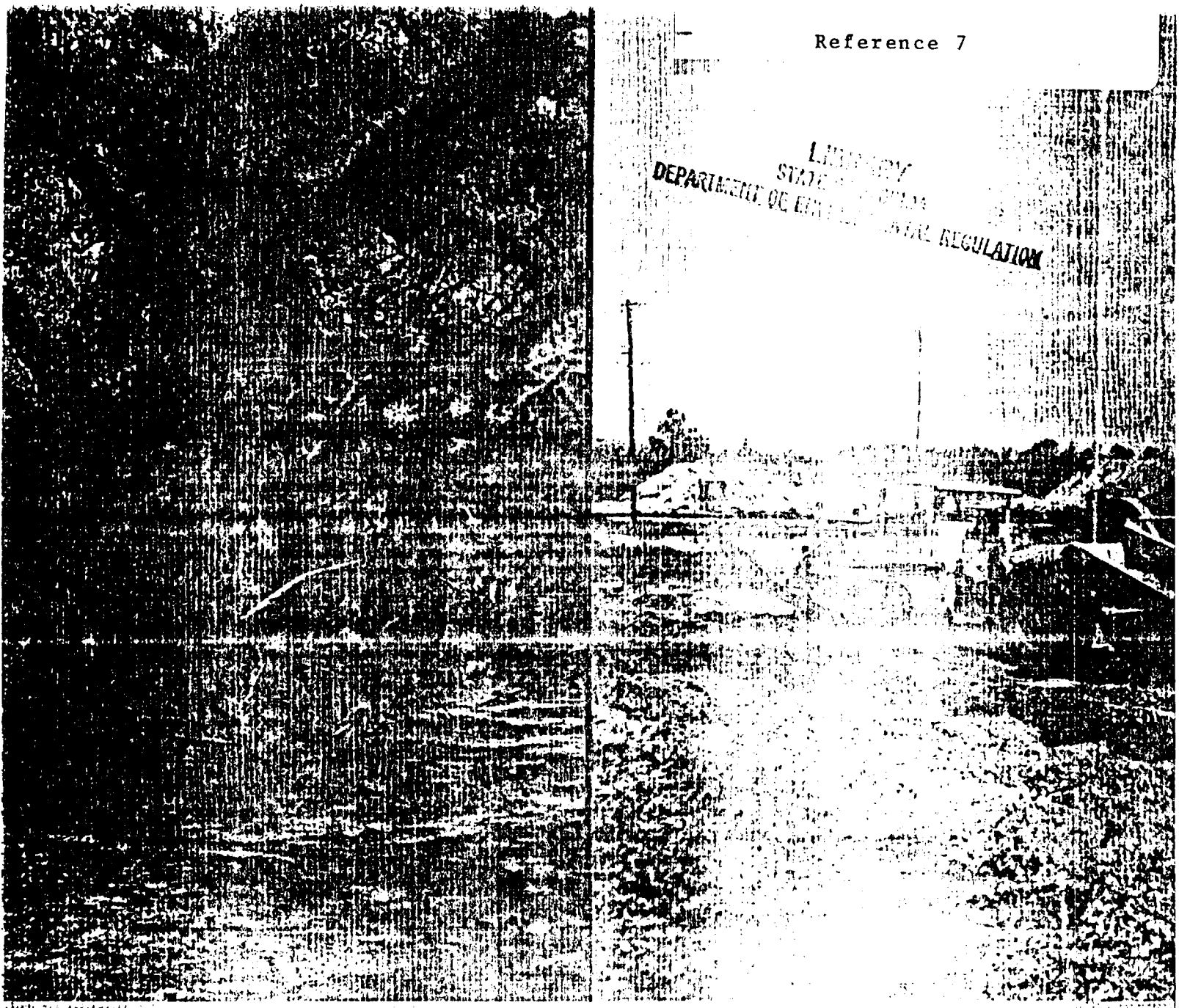
WATER RESOURCES OF BROWARD COUNTY, FLORIDA

By
C. B. Sherwood, H. J. McCoy, and C. F. Galliher

Prepared by the
UNITED STATES GEOLOGICAL SURVEY
in Cooperation with the
BUREAU OF GEOLOGY
FLORIDA DEPARTMENT OF NATURAL RESOURCES
and
BROWARD COUNTY

TALLAHASSEE
1973

Reference 7



FLORIDA

Environmentally
Endangered
Lands Program

supplies is the effect of the channelization of the Kissimmee River on the water supply of south Florida. As a consequence of channelization, the area of river marsh was reduced from 45,000 acres to 8,000 acres, and the length of the river was greatly reduced. The resulting straight channel is much more efficient at moving water than the meandering natural river was. Rain falling in the northern end of the Kissimmee drainage basin now gets to Lake Okeechobee much faster and with a greater peak flow. The new configuration of the Kissimmee waterway has created three situations harmful to the water supply of south Florida: (a) channelization and the concomitant drainage have opened up the watershed to development, thus increasing the pollution load; (b) the great reduction of floodplain marsh and swamp has likewise greatly reduced the absorption of pollutants formerly carried on by those wetlands; and (c) pollutants reach Lake Okeechobee much faster than formerly. These situations may well result in an accelerated eutrophication of Lake Okeechobee with an associated decline in water quality. Lake Okeechobee water goes south, east and west in canals. Water in the canals recharges the shallow aquifers of south Florida and helps maintain a sufficient fresh water head to prevent sea water encroachment into aquifers. Thus, there is a connection between water quality in Lake Okeechobee and water quality in aquifers supplying south Florida communities. Water quality in Lake Okeechobee is, of course, also very important to the lake's associated wetland and aquatic ecosystmes. It is also important to natural systems further south. For example, the Everglades National Park receives, by law, a fixed minimum amount of water from a storage system that extends from the park's northern boundary to Lake Okeechobee.

Question (2), what surface waters are most important, is difficult to answer satisfactorily. Any list of important waters must, however, include these general classes of surface waters: (a) rivers and lakes used as municipal water supply sources (see Table No. 3); (b) lakes and rivers of good water quality which could serve as water supply sources in the future (see Table No. 4); and

Table 3

SURFACE WATER SOURCES AND FLORIDA MUNICIPALITIES SUPPLIED 1970

Source	Municipality	Percent of total demand supplied
Deer Point Reservoir	Panama City	100
Chipola River	Port St. Joe	100
Quincy Creek	Quincy	90
Hillsborough River	Tampa	100
Lake Washington (St. Johns River)	Melbourne & Eau Gallie	100
Manatee River	Palmetto	100
Braden River	Bradenton	100
Lake Sierra	Lake Placid	100
Shell Creek	Punta Gorda	100
Lake Okeechobee	Belle Glade	100
	Clewiston	100
	Okeechobee	100
	Pahokee	100
Caloosahatchee River	Ft. Myers	30
	Ft. Myers suburbs	100
Lake Mangonia & Clear Lake	West Palm Beach; Palm Beach & South Palm Beach	100
Myakka-Hatchee River	North Port Charlotte	100
Fordham Waterway	Port Charlotte	92

Source: U.S. Geological Survey and Florida Department of Natural Resources

Reference 8

WINDSHIELD SURVEY FORM

Date: 7/30/85
Surveyed by: [illegible]

Resurveyed 4/5/89 by Brian Moore

1. Site Name Stagg Auto Radiator

   Correct Address 941 NW 40th Ave (441)

   Phone #

   EPA ID # FLD

   Type of business/industry Radiator Repair

2. Directions to the Site I-95 to Sunrise Blvd, west to 441 South 1/2 Block. Site is abandoned building behind Amoco Station

3. Check if present on site and use the space provided to describe:

   a. storage tanks (above/below ground; how many; condition) No

   b. berms (material/condition) no

   c. drums (covered/uncovered; on/off the ground; condition; number; labels) no

   d. other storage containers no

   e. impoundments/pits/ponds no

   f. piles on ground (material; covered/uncovered) no

   g. dumpster/bulk waste container no

   h. air stacks no

   i. air emissions/odor (wind direction) no

   j. posted signs (which ones; location) no

   k. sprayfield/ drainfield not in use

   l. pesticide storage no

   m. evidence of past fire/fire protection equipment no

   n. soil discoloration coolant green on asphalt ✓

Windshield Survey Form (Continued)

o. surface water (type) Canal nearby, but off site

p. buildings (how many) 1

q. sheds (how many) 0

r. drainage ditches/pipes not visible

s. wells (monitoring/drinking) ?

t. septic tank yes ✓

u. spills (describe) in front of repair bays on east side ✓

v. sewers/manholes no

w. railroad tracks no

x. flora (describe) grasses, shrubs

y. fauna (describe) no

z. water supply ~

aa. other ~

bb. other ~

cc. other ~

dd. other ~

4. Check if present off site and use the space provided to describe:

a. soil discoloration no

b. surface water canal to north of building

c. drainage ditches no

d. sewer systems/manholes no

e. spills (describe) evidence of coolant, possibly in garage area

f. leachate ~

g. flora grasses mostly

h. fauna no

i. municipal/domestic water supply ?

j. other ~

k. other

Windshield Survey Form (Continued)

4. Check if present off site...(Continued)

l. other _____

m. other _____

5. Access:

a. Is the site fenced (describe)? only on south side ✓

b. Is access restricted? no

c. Is the site guarded? no

d. Comments _____

6. Is the site active/abandoned? abandoned (Now active auto parts shop)

7. Surrounding community (describe land use and type of industries adjacent to the site; proportions):

a. industrial 295 Station in Front Rick Case Acura dealer South of Site 4/89 adjacent

b. commercial - mostly commercial & offices

c. residential _____

d. (rural)/farms _____

e. rural/woods _____

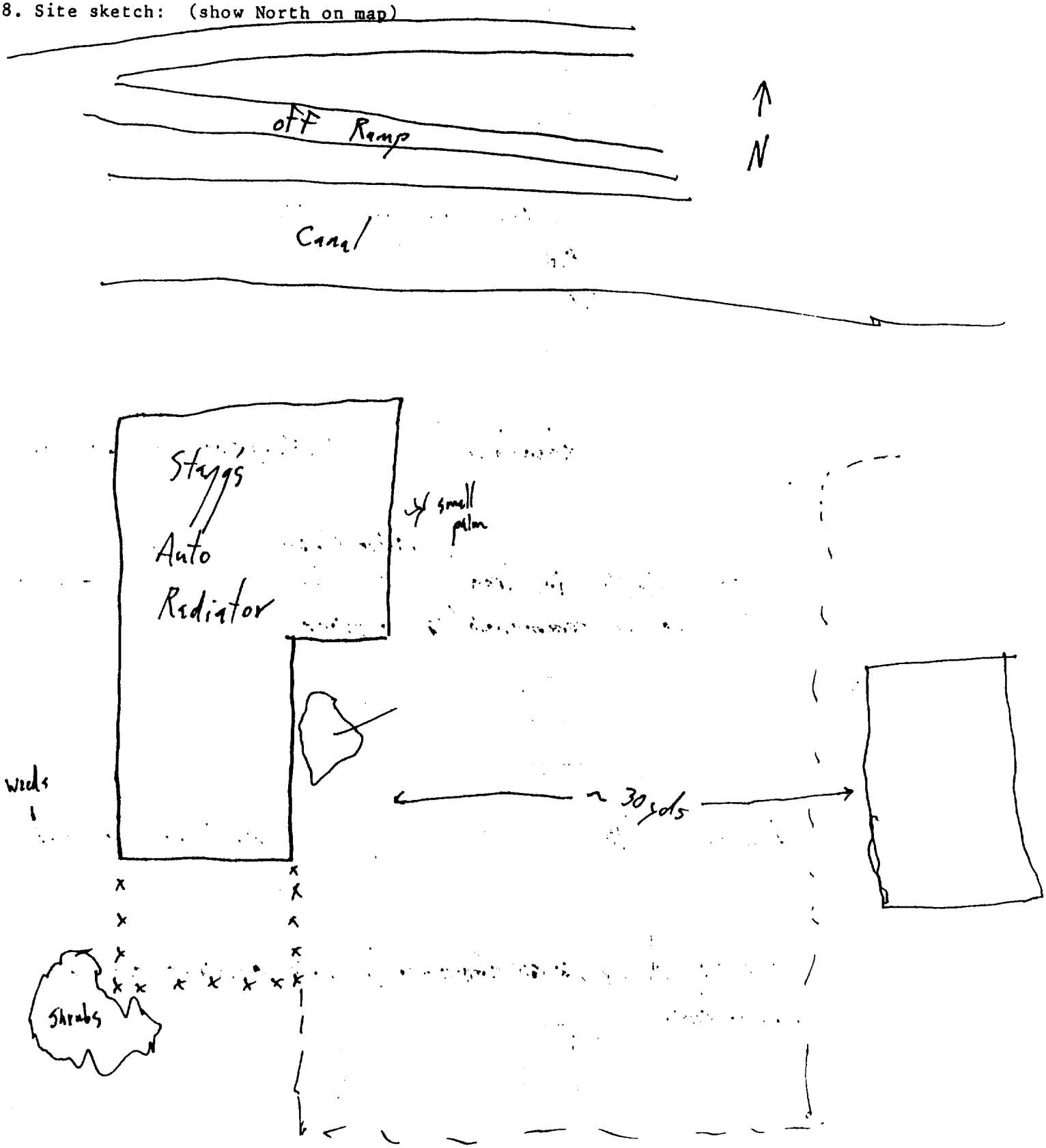
f. the closest business/residence is: (give name, address and distance)

Amoco (951) ✓ Rick Case Hyundai

g. comments 4/6/89 Flora is all damaged, No obvious sign of contamination.

Windshield Survey Form (Continued)

8. Site sketch: (show North on map)



Windshield Survey Form (Continued)

9. Comments: _____

_____

_____

_____

_____

10. Recommendations: _____

_____

_____

Time In 13:55

Time Out 14:50

Reference 9

8/26/75

FACILITY INSPECTION WORK SHEET

Source Name STAGG's RADIATOR Source No. 331

☐ Checked Permit Conditions ☐ Checked Emission Point Data Sheet

Utilized Inspection Point Sheet No. ____ Problem Points ____ ____ ____ ____ ____

Present Pollution Control Device Efficiency

1. (3) UAIS	Yes ✓ No ____	4. ____	Yes ____ No ____		
2. STEAM Gene	Yes ✓ No ____	5. ____	Yes ____ No ____		
3. Spray rack	Yes ✓ No ____	6. ____	Yes ____ No ____		

Comments regarding problem points, corrective action and compliance schedule:

Problem Points (where): Over flow from water rate that hold muriatic acid, flux and caustic soda runs into a drain pipe which leads outside into parking lot. This water is presently puddling on top of sand and gravel in parking lot. Spray rack has exhaust fan

Corrective Action (what): inside on window frame. Exhaust fan is working. Company has a steam gene but have not used it as yet.

Compliance (when): Have no permit for spray rack

Person Contacted: Thomas Mancher Mgr Title

Next Contact Date: ? Bill Hart Inspector

OFFICE USE ONLY

Referred to: ☑ Air ☑ Water (Engineering) Date: 9/25/75

N.O.V. Sent: ☐ Yes ☐ No Date: ____

PC 239

Time In 11:16

Time Out 11:35

Date 1-8-76

1/8/76

FACILITY INSPECTION WORK SHEET

Source Name Stage Radiator Source No. 331

[M/A] Checked Permit Conditions [✓] Checked Emission Point Data Sheet

Utilized Inspection Point Sheet No. ___ Problem Points ___ ___ ___ ___ ___

Present Pollution Control Device Efficiency

1. drainage	Yes ✓ No ___	4. Spray rack	Yes ✓ No ___		
2. Yard area	Yes ✓ No ___	5. ___	Yes ___ No ___		
3. work area	Yes ✓ No ___	6. ___	Yes ___ No ___		

Comments regarding problem points, corrective action and compliance schedule:

Problem Points (where): No violations noted. There is quite a bit of standing water due to ground being saturated. Work area OK. Radiator wash water standing in Yard area poses no present danger to Sunrise Canal.

Corrective Action (what): None. No spraying being done at this time.

Compliance (when): N/A

Person Contacted: Thomas Mercher Mgr. Title

Next Contact Date: 2-9-76 S. Hennessy Inspector

OFFICE USE ONLY

Referred to: [ ] Air [ ] Water (Engineering) Date: ___

N.O.V. Sent: [ ] Yes [ ] No Date: ___

Time In 1055

Time Out 1230

Date 9-1-76

9/1/76

FACILITY INSPECTION WORK SHEET

Source Name STAGGS RADIATOR Source No. 331

☐ Checked Permit Conditions ☒ Checked Emission Point Data Sheet

Utilized Inspection Point Sheet No. ____ Problem Points ____ ____ ____ ____ ____

Present Pollution Control Device Efficiency

1. FRENCH DRAINS	Yes ____	No X	4. ____	Yes ____	No ____
2. ____	Yes ____	No ____	5. ____	Yes ____	No ____
3. ____	Yes ____	No ____	6. ____	Yes ____	No ____

Comments regarding problem points, corrective action and compliance schedule:
NEWLY INSTALLED FRENCH DRAIN ON WEST SIDE OF FACILITY - BUILT TO TAKE EXCESS WASTE
Problem Points (where): WATER CONTAINING CAUSTIC & ACID RESIDUES SEEMS TO BE WORKING SATISFACTORILY ONLY ON AN INTERMITTENT BASIS. - (SEE INSP. OF 7/29/76) AT THIS SP. A MINOR DISCH. OF WATER COULD BE OBSV LEAVING TOP OF FRENCH DRAIN & SPREADING IT IN AN IRREG. PATCH OVER AN AREA WITHIN 10'-15' OF DRAIN. MOST OF AREA IS WET - IN A FEW PLACES, HOWEVER, STANDING WATER 1/2" DEEP PRESENT. MR THOMS SAYS THAT ONLY WHEN AREA HAS HAD HEAVY RAINS (YESTERDAY) OR WHEN THEY ARE EXTRA BUSY, DOES OVERFLOW SITUATION AT NEW FRENCH DRAIN OCCUR (WHEN THEY ESTM 20-25 GAL OF WATER DISCHD PER RADIATOR)
Corrective Action (what): MR THOMS IS GOING TO INCR. THE CAPACITY OF THE FRENCH DRAIN ON THE WEST SIDE BY EXCAVATING A NEW PIT APPROX 5FT. DEEP (TO PRES. DRAIN) - HE WILL BE INSTALLING TWO MORE 55 GAL HOLDING TANKS. NEW TANKS & THIS TIME LINE THE NEW PIT WITH PLYWOOD TO HOLD BACK SAND INFILTRATION. MR THOMAS IS SEALING UP HIS GRAVEL IN PRES. PIT. HE WILL HAVE THIS FINISHED WITHIN TWO WEEKS AND WANTS US TO RE-INSPECT DRAINAGE SYS THEN.

THIS NEW
MODIFICATION MAY SOLVE THE PROBLEM, PARTICULARLY SINCE IT APPEARS THAT
Compliance (when): PRESENT DRAINAGE SYS CAN HANDLE WATER FLOW ON DRY DAYS -

Person Contacted: JAY THOMS OWNER
Title

Next Contact Date: 9-15-76 PAUL JONES, PERSONNEL RAY WALKER
Inspector

OFFICE USE ONLY

Referred to: ☐ Air ☐ Water (Engineering) Date: ____

N.O.V. Sent: ☐ Yes ☐ No Date: ____

Time In 10:30

Time Out 11:15

Date 11-18-76

11/18/76

FACILITY INSPECTION WORK SHEET

Source Name Stags Radiator Source No. 331

☐ N/A Checked Permit Conditions ☑ Checked Emission Point Data Sheet

Utilized Inspection Point Sheet No. ____ Problem Points ____ ____ ____ ____ ____

Present Pollution Control Device Efficiency

1. French drain w/ pit Yes ____ No ✓
2. _____ Yes ____ No ____
3. _____ Yes ____ No ____

Comments regarding problem points, corrective

Problem Points (where): No liquid w
near canal. Standing wa
East side pit presently a
into it. West side pit an

Corrective Action (what): Overflow co
Both test tanks were emptied yesterday + it rained last evening as well. West side French drain system is overflowing (probably due to saturated ground).

Compliance (when): I will recheck tomorrow + see if overflow is continuing. 11-19-76 10:30 - some standing liquid still evident - less than yesterday

Person Contacted: Harold Jackson Radiator Repairman
Title

Next Contact Date: 12-10-76 [signature]
Inspector

OFFICE USE ONLY

Referred to: ☐ Air ☐ Water (Engineering) Date: _____

N.O.V. Sent: ☐ Yes ☐ No Date: _____

Time In 16:10

Time Out 17:00

Date 3-21-77

(RH) 3/21/77

FACILITY INSPECTION WORK SHEET

Source Name Stays Radiator Source No. 331

☐ Checked Permit Conditions ☒ Checked Emission Point Data Sheet

Utilized Inspection Point Sheet No. ____ Problem Points ____ ____ ____ ____ ____

Present Pollution Control Device Efficiency

1. French drain outside Yes ✓ No ____ 4. ____ Yes ____ No ____
2. spray rack Yes ✓ No ____ 5. ____ Yes ____ No ____
3. Steam Cleaner Yes ✓ No ____ 6. ____ Yes ____ No ____

Comments regarding problem points, corrective action and compliance schedule:

Problem Points (where): Mr. Thoms has relocated his radiator shop to the bldg next door. All since the discharge is going to the west side french drain. The spray rack has been moved outdoors on the west side of bldg. Steam cleaner was not in use.

Compliance (when): Mr. Thoms has opened a ceramic shop in the old radiator bldg.

Person Contacted: Mr. Jay Thoms Owner (Title)

Next Contact Date: 6-21-77 Rick Hackl (Inspector)

OFFICE USE ONLY

Referred to: ☐ Air ☐ Water (Engineering) Date: ____

N.O.V. Sent: ☐ Yes ☐ No Date: ____

Time In 1450

Time Out 1510

Date 3-15-79

3/15/79

FACILITY INSPECTION WORK SHEET

Source Name STAG'S RADIATOR Source No. 331

☐ Checked Permit Conditions ☒ Checked Emission Point Data Sheet

Utilized Inspection Point Sheet No. ____ Problem Points ____ ____ ____ ____ ____

Present Pollution Control Device Efficiency

1. FRENCH DRAIN	Yes ✓	No ____	4. ____	Yes ____	No ____
2. OUTSIDE SPRAY BOOK	Yes ✓	No ____	5. ____	Yes ____	No ____
3. ____	Yes ____	No ____	6. ____	Yes ____	No ____

Comments regarding problem points, corrective action and compliance schedule:

Problem Points (where): FRENCH DRAIN OPERATING NOMINALLY - NO OVERFLOWS OBSV. AT TIME OF INSP. SPRAYING OF RADIATORS DONE AGAINST W. WALL OF BLDG - NO PROB. OBSV. WITH THEIR OVERSPRAY. SOUTH SIDE OF THEIR FACILITY IS USED

Corrective Action (what): TO DRAIN WATER FROM ACC. RADIATORS. AREA IS QUITE SANDY & PERCOLATES EASILY. MR CRAIN INFORMED ME THEY MAY BE MOVING OPERATION FROM THIS LOC WITHIN NEXT FEW MONTHS.

Compliance (when): NO PROB. ~~PRESENTLY~~ NOTED.

Person Contacted: DAVE CRAIN MGR.
Title

Next Contact Date: 6-15-79 P. JOSEPHSON
Inspector

OFFICE USE ONLY

Referred to: ☐ Air ☐ Water (Engineering) Date: ____

N.O.V. Sent: ☐ Yes ☐ No Date: ____

TRANSMITTAL SLI[illegible]

Reference 10

ATE: 4/27/76

DATE FIRST REFERRED 4/25/75

O: Bob

OM: Roy

4/26/76

: STAGS RADIATOR

Inspection report 4/26/76

MMENTS: [illegible] the method of liquid waste disposal is [illegible] satisfactorily. [illegible] to be made to take further look at this place?

OUR REPLY WOULD BE APPR[illegible]

4-26-76

Stag's Radiator
N W 40 AVE
plantation, Fla

TE:

OM:

MMENTS:

PVC pipe in rear of bldg lead to under tank in shop area. Idea was scrapped because water would not flow thru line.

Rich Hacht Inspector

Time In 1415

Time Out 1440

Date 10-7-75

Reference 11

FACILITY INSPECTION WORK

Source Name Staggs Aviation Source No. 331

☐ Checked Permit Conditions ☐ Checked Emission Point Data Sheet

Utilized Inspection Point Sheet No. ____ Problem Points ____ ____ ____ ____ ____

Present Pollution Control Device Efficiency

1. Steam Jenny	Yes ____	No ____	4. ____	Yes ____	No ____
2. Spray Rack	Yes ?	No ?	5. ____	Yes ____	No ____
3. 3 VATS	Yes X	No ____	6. ____	Yes ____	No ____

Comments regarding problem points, corrective action and compliance schedule:

Problem Points (where): About the drain from the overflow of the vats. The mgr. and owner stated that they would take a 55-gal drum of gravel and bury it in the ground. Then they would hook up the overflow

Corrective Action (what): drain pipe to it if this was acceptable. Also I don't think that the [illegible] the spray rack is efficient enough for the operation. Observed operator location to the canal in the [illegible]

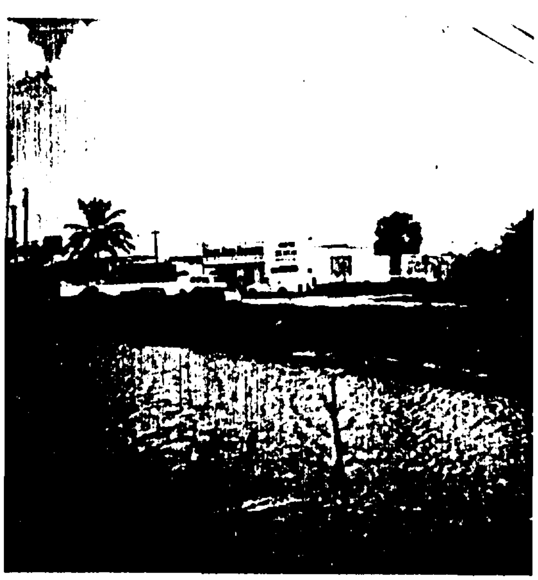
Compliance (when): Pending review of permit.

Pe

Ne

Re

N.



eken

USE (

nginee

Time In 1350

Time Out 1625

Date 10-9-75

Reference 12

FACILITY INSPECTION WORK[illegible]

Source Name Storgs Radiator   Source No. 331

☐ Checked Permit Conditions   ☐ Checked Emission Point Data Sheet

Utilized Inspection Point Sheet No. ____   Problem Points ____ ____ ____ ____ ____

Present Pollution Control Device Efficiency

1. Drainage	Yes X	No ____	4. ____	Yes ____	No ____
2. Yard area	Yes X	No ____	5. ____	Yes ____	No ____
3. ____	Yes ____	No ____	6. ____	Yes ____	No ____

Comments regarding problem points, corrective action and compliance schedule:

Problem Points (where): The manager call. I went out and they had graded the driveway and put down a drain for their H_2O from their vats. They filled a 55 gal drum with 3/4 rock and submerged it into the ground.

Corrective Action (what): A photo was taken of this. The drainage is less than a gallon a day according to the mgr. I observed the drainage and it was almost nil at this time. Corrective action none.

Compliance (when): ok

Person Contacted: [illegible]

Next Contact Date: 11-9-75

OFFICE [illegible]

Referred to: ☐ Air ☐ Water (En[illegible]

N.O.V. Sent: ☐ Yes ☐ No

Reference 13

Dangerous Properties of Industrial Materials

Sixth Edition

N. Irving Sax

ETHYLENE DIPERCHLORATE

mf: $C_2H_4Cl_2O_8$; mw: 226.96

THR: Highly sensitive, very explosive.
Incomp: Water.

ETHYLENE GLYCOL

CAS RN: 107211 NIOSH #: KW 2975000
mf: $C_2H_6O_2$; mw: 62.08

Colorless, sweet-tasting liquid. Hygroscopic. bp: 197.5°, lel = 3.2%, fp: −13°, flash p: 232°F (CC), d: 1.113 @ 25°/25°, autoign. temp.: 752°F, vap. d: 2.14, vap. press: 0.05 mm @ 20°.

SYNS:

ATHYLENGLYKOL (GERMAN)	GLYCOL
1,2-DIHYDROXYETHANE	GLYCOL ALCOHOL
1,2-ETHANEDIOL	MONOETHYLENE GLYCOL
ETHYLENE ALCOHOL	NCI-C00920

TOXICITY DATA:	2-1	CODEN:
msc-mus:lym 100 mmol/L		PAACA3 21,74,80
eye-rat 12 mg/m3/3D		TXAPA9 16,646,70
skn-rbt 555 mg open MLD		UCDS** 7/21/65
eye-rbt 111 mg		JPETAB 82,377,44
eye-rbt 12 mg/m3/3D		TXAPA9 16,646,70
eye-rbt 1440 mg/6H MOD		BUYRAI 31,25,77
orl-chd TDLo:7400 mg/kg:SYS		PGMJAO 52,598,76
orl-hmn LDLo:710 mg/kg		JETOAS 9,373,76
ihl-hmn TCLo:10000 mg/m3:IRR		AGGHAR 5,1,33
unk-man LDLo:1637 mg/kg		85DCAI 2,73,70
orl-rat LD50:8540 mg/kg		JIHTAB 23,259,41
ipr-rat LD50:5220 mg/kg		TXAPA9 21,454,72
scu-rat LD50:5300 mg/kg		CTOXAO 4,185,71
ivn-rat LDLo:2800 mg/kg		JPETAB 41,387,31
ims-rat LDLo:3300 mg/kg		JPETAB 41,387,31
orl-mus LD50:7500 mg/kg		JPETAB 65,89,39
ipr-mus LDLo:1700 mg/kg		PSEBAA 35,98,36
scu-mus LDLo:2700 mg/kg		BJIMAG 1,207,44
ivn-mus LD50:3000 mg/kg		JPETAB 65,89,39
orl-cat LD50:2000 mg/kg		JIHTAB 21,173,39
scu-cat LDLo:2000 mg/kg		AGGHAR 5,1,33
skn-rbt LD50:19530 mg/kg		NPIRI* 1,49,74
ipr-rbt LDLo:1000 mg/kg		PCOC** -,502,66
ivn-rbt LDLo:5 gm/kg		JPETAB 41,387,31
ims-rbt LDLo:5500 mg/kg		JPETAB 41,387,31
orl-gpg LD50:6610 mg/kg		JIHTAB 23,259,41
scu-gpg LDLo:5000 mg/kg		AIPTAK 51,398,35

Aquatic Toxicity Rating: TLm96:1000-100 ppm WQCHM* 3,-,74
TLV: Air: 100 ppm (vapor) DTLWS* -,18,76. *Toxicology Review:* AJMEAZ 38,409,65. Selected by NTP Carcinogenesis Bioassay as of December 1980. Reported in EPA TSCA Inventory, 1980.
THR: MOD irr via skn, eyes and mu mem, and via oral, iv and ip routes. (Lethal dose for man reported to be 100 ml). If ingested it causes initial CNS stimulation followed by depression. Later, it causes kidney damage which can terminate fatally. Very tox in particulate form upon inhal.
Fire Hazard: Slight, when exposed to heat or flame; can react violently with chlorosulfonic acid, oleum, H_2SO_4, $HClO_4$ and P_2S_5.
Spontaneous Heating: No.
Explosion Hazard: Mod, when exposed to flame.
To Fight Fire: Alcohol foam, water, foam, CO_2, dry chemical.

ETHYLENE GLYCOL BIS(2,3-EPOXY-2-METHYLPROPYL) ETHER

CAS RN: 3775857 NIOSH #: KH 5775000
mf: $C_{10}H_{18}O_4$; mw: 202.28

SYNS:

ETHYLENE GLYCOL DI(2,3-EPOXY-2-METHYLPROPYL) ETHER	ETHYLENE GLYCOLIDE, (2,3-EPOXY-2-METHYLPROPYL) ETHER

TOXICITY DATA:	2-1	CODEN:
skn-rbt 10 mg/24H open MLD		AIHAAP 23,95,62
orl-rat LD50:7460 mg/kg		AIHAAP 24,305,63
skn-rbt LD50:3150 mg/kg		AIHAAP 23,95,62

THR: MOD orl, skn. An irr in skn of rbts.
Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

ETHYLENE GLYCOL BIS(IODOACETATE)

CAS RN: 5451514 NIOSH #: AI 3560000
mf: $C_6H_8I_2O_4$; mw: 397.94

SYN: ETHYLENE BIS(IODOACETATE)

TOXICITY DATA:	3	CODEN:
ipr-mus LD50:16 mg/kg		JNCIAM 31,297,63
ivn-dog LD50:4940 ug/kg		JNCIAM 31,297,63

THR: HIGH ipr, ivn. See also iodides.
Disaster Hazard: When heated to decomp it emits tox fumes of I^-.

ETHYLENE GLYCOL DIALLYL ETHER

CAS RN: 7529273 NIOSH #: KW 4200000
mf: $C_8H_{14}O_2$; mw: 142.22

SYN: DIALLYLETHER ETHYLENGLYKOLU (CZECH)

TOXICITY DATA:	2	CODEN:
skn-rbt 500 mg/24H SEV		28ZPAK -,38,72
eye-rbt 250 ug/24H SEV		28ZPAK -,38,72
orl-rat LD50:1020 mg/kg		28ZPAK -,38,72

Reported in EPA TSCA Inventory, 1980.
THR: MOD orl. SEV skn, eye irr.
Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

ETHYLENE GLYCOL DIETHYL ETHER

CAS RN: 629141 NIOSH #: KI 1225000
mf: $C_6H_{14}O_2$; mw: 118.20

Colorless liquid, slight ethereal odor. mp: −74°, bp: 121.4°, flash p: 95°F (OC), d: 0.8417 @ 20°/20°, autoign. temp.: 406°F, vap. d: 6.56, vap. press: 9.4 mm.

SYN: DIETHYL CELLOSOLVE

TOXICITY DATA:	2-1	CODEN:
eye-rbt 17 mg		AJOPAA 29,1363,46
orl-rat LD50:4390 mg/kg		JIHTAB 23,259,41

SYNS:

1-DODECANETHIOL	M-LAURYL MERCAPTAN
M-DODECYL MERCAPTAN	1-MERCAPTODODECANE
1-DODECYL MERCAPTAN	NCI-C60935

TOXICITY DATA:	CODEN:
cyt-rat-ihl 5020 ug/m3/16W	BZARAZ 27,102,74

Reported in EPA TSCA Inventory, 1980.
THR: See mercaptans. MUT data.
Fire Hazard: Low.
To Fight Fire: Alcohol foam.
Disaster Hazard: When heated to decomp it emits tox fumes of SO_x.

LAURYLPYRIDINIUM LAURYLXANTHATE

CAS RN: 14917965 NIOSH #: UU 5775000
mf: $C_{17}H_{30}N \cdot C_{13}H_{25}OS_2$; mw: 509.98

TOXICITY DATA: 2	CODEN:
skn-rbt 500 mg/24H MOD	28ZPAK -,174,72
eye-rbt 20 mg/24H SEV	28ZPAK -,174,72
orl-rat LD50:802 mg/kg	28ZPAK -,174,72

THR: MOD orl. A skn, eye irr.
Disaster Hazard: When heated to decomp it emits very tox fumes of NO_x and SO_x.

LAURYL SULFATE, SODIUM SALT, CONDENSED WITH 3 MOLES OF ETHYLENE OXIDE

NIOSH #: OF 5725000

SYNS:

SODIUM SALT OF SULFATED BROAD-CUT COCONUT ETHOXY(3EO) ALCOHOL	SODIUM SALT OF SULFATED ETHOXYLATE OF BROAD-CUT LAURYL ALCOHOL

TOXICITY DATA: 2	CODEN:
skn-rbt 10 mg MLD	JSCCA5 22,411,71
skn-rbt 230 mg/5W open MLD	JSCCA5 22,411,71
skn-gpg 115 mg/5W open MLD	JSCCA5 22,411,71

THR: A skn irr.
Disaster Hazard: When heated to decomp it emits tox fumes of SO_x.

LAVANDIN OIL

CAS RN: 8022159 NIOSH #: OF 6097500

Main constituent is Linalool; found in plant Lavanoula Hybrida Reverchon; prepared by steam distillation of the flowering stalks of the plant.

SYN: OIL OF LAVANDIN

TOXICITY DATA: 2	CODEN:
skn-rbt 500 mg/24H MLD	FCTXAV 14,443,76

Reported in EPA TSCA Inventory, 1980.
THR: A skn irr.
Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

LAVATAR

NIOSH #: OF 6097840

Coal tar distillates in a shampoo base.

TOXICITY DATA:	CODEN:
mma-sat 25 ug/plate	TOLED5 3,325,79

THR: MUT data.
Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

LAVENDER ABSOLUTE

NIOSH #: OF 6100000

Found in the flowers of Lavandula Officinalis chaix. The main constituent is Linalyl Acetate; prepared from alcoholic extract of a residue, which is extracted from plant material using an organic solvent; a dark green liquid.

TOXICITY DATA: 1	CODEN:
skn-rbt 500 mg/24H MLD	FCTXAV 14,443,76
orl-rat LD50:4250 mg/kg	FCTXAV 14(5),443,76

THR: LOW orl; A skn irr.
Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

LAVENDER OIL

CAS RN: 8000280 NIOSH #: OF 6110000

Main constituent is linalyl acetate. Found in the plant Lavandulaofficinalif choix (Fam. Labiate). Prepared by steam distillation of the flowering stalks of the plant.

SYNS:

LAVENDEL OEL (GERMAN)	OIL OF LAVENDER

TOXICITY DATA: 1	CODEN:
skn-rbt 500 mg/24H MLD	FCTXAV 14,443,76
orl-rat LD50:9040 mg/kg	PHARAT 14,435,59

Reported in EPA TSCA Inventory, 1980.
THR: LOW orl. A skn irr.
Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

LD-813

CAS RN: 64083052 NIOSH #: OF 6730000

Commercial mixture of aromatic amines containing approx. 40% MOCA

TOXICITY DATA: 3	CODEN:
orl-rat TDLo:37 gm/kg/2Y-C:CARC	TXAPA9 31,159,75

THR: An exper CARC. See also aromatic amines.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

LEAD

CAS RN: 7439921 NIOSH #: OF 7525000
mf: Pb; mw: 207.19

Bluish-gray, soft metal. mp: 327.43°, bp: 1740°, d: 11.34 @ 20°/4°. vap. press: 1 mm @ 973°.

SYNS:

C.I. 77575	LEAD S2
LEAD FLAKE	OLOW (POLISH)

TOXICITY DATA: 3	CODEN:
orl-rat TDLo:790 mg/kg (MGN)	AEHLAU 23,102,71
orl-rat TDLo:1140 mg/kg (14D pre-21D post)	PHMCAA 20,201,78
orl-mus TDLo:1120 mg/kg (MGN)	AEHLAU 23,102,71
orl-mus TDLo:6300 mg/kg (1-21D preg)	EXPEAM 31,1312,75
orl-mus TDLo:12600 mg/kg (1-21D preg)	EXPEAM 31,1312,75
orl-mus TDLo:4800 mg/kg (1-16D preg)	BECTA6 18,271,77
ivn-ham TDLo:50 mg/kg/(8D preg):TER	EXPEAM 25,56,69
orl-dom TDLo:662 mg/kg (1-21W preg)	TXAPA9 25,466,73
ivn-ham TDLo:50 mg/kg/(8D preg):TER	EXPEAM 25,56,69
orl-wmn TDLo:450 mg/kg/6Y:CNS	JAMAAP 237,2627,77
ipr-rat LDLo:1000 mg/kg	EQSSDX 1,1,75
orl-pgn LDLo:160 mg/kg	HBAMAK 4,1289,35

Carcinogenic Determination: Indefinite IARC** 23, 325,80.

TLV: AIR: 0.15 mg/m3 DTLVS* 4,243,80; *Toxicology Review:* TRBMAV 33(1),85,75; PGMJAO 51(601),783,75; JDSCAE 58(12),1767,75; IRXPAT 12,1,73; CTPHBG 55,147,71; CTOXAO 6(3),377,73; QURBAW 7(1),75,74; RREVAH 54,55,75; JAVMA4 164(3),277,74; AEMBAP 40,239,73; CTOXAO 5(2),151,72; FOREAE 7,313,42; KOTTAM 11(11),1300,75; GEIGAI 20(3),291,73; STEVA8 2(4),341,74; CLCHAU 19,361,73; AJMEAZ 38,409,65; 85DHAX PB,254,72; PDTNBH 6,204,77; AMTODM 3,209,77. OSHA Standard: Air: TWA 200 ug/m3 (SCP-O) FEREAC 39,23540,74. Occupational Exposure to Inorganic Lead recm std: Air: TWA 0.10 mg(Pb)/m3 NTIS**. "NIOSH Manual of Analytical Methods" VOL 1 102,191,195,200,208,214,262, VOL 3 S341. Reported in EPA TSCA Inventory, 1980.

THR: See lead compounds. A hmn CNS. HIGH orl; MOD irr. A common air contaminant. It is a ± CAR of the lungs and kidney and an exper TER.

Fire Hazard: Mod, in the form of dust when exposed to heat or flame. See also powdered metals.

Explosion Hazard: Mod, in the form of dust when exposed to heat or flame.

Incomp: NH_4NO_3, ClF_3, H_2O_2, NaN_3, Na_2C_2, Zr. disodium acetylide; oxidants.

Disaster Hazard: Dangerous; when heated, emits highly tox fumes; can react vigorously with oxidizing materials.

For further information see Vol. 1, No. 1 of *DPIM Report.*

LEAD ACETATE

CAS RN: 301042 NIOSH #: AI 5250000
mf: $C_4H_6O_4 \cdot Pb$; mw: 325.29

Trihydrate, colorless crystals or white granules or powder. Slightly acetic odor; slowly effloresces; d: 2.55; mp: 75° when rapidly heated. Decomp above 200°; very sol in glycerol. Keep well closed.

SYNS:

ACETIC ACID LEAD (2+) SALT
ACETATE DE PLOMB (FRENCH)
BLEIACETAT (GERMAN)
LEAD (2+) ACETATE
LEAD(II) ACETATE
LEAD DIACETATE
LEAD DIBASIC ACETATE
NORMAL LEAD ACETATE
PLUMBOUS ACETATE
SALT OF SATURN
SUGAR OF LEAD

TOXICITY DATA: 3	CODEN:
dns-rat-ipr 50 ug/kg	PSEBAA 143,446,73
spm-mus-par 1 gm/kg	ARTODN 46,159,80
orl-rat TDLo:7854 mg/kg (6-16D preg)	FCTXAV 13,629,75
orl-rat TDLo:1800 mg/kg (1-22D preg/14D post)	TOLED5 7,373,80
orl-rat TDLo:113 gm/kg (70D pre-21D post)	PBBHAU 8,347,78
orl-mus TDLo:3150 mg/kg (1-21D preg)	CRSBAW 170,1319,76
orl-mus TDLo:4800 mg/kg (1-8D preg)	CRSBAW 172,1037,78
orl-mus TDLo:9 gm/kg (7-21D preg)	CRSBAW 170,1319,76
ipr-mus TDLo:35 mg/kg (8D preg)	BIMDB3 30,223,79
ivn-ham TDLo:50 mg/kg/(8D preg):TER	EXMPA6 7,208,67
ivn-ham TDLo:50 mg/kg (8D preg)	EXPEAM 25,56,69
ipr-pgn LDLo:150 mg/kg	ARTODN 46,265,80
cyt-hmn:lym 1 mmol/L/24H	TXCYAC 10,67,78
cyt-mus-orl 16800 mg/kg/4W	JTEHD6 2,619,77
cyt-mky-orl 5760 mg/kg/64W	MUREAV 45,77,77
ipr-mus TDLo:15 mg/kg/(8D preg):TER	BIMDB3 30,223,79
ivn-ham TDLo:50 mg/kg/(8D preg):TER	EXMPA6 7,208,67
orl-rat TDLo:250 gm/kg/47W-C:ETA	BJCAAI 16,283,62
ipr-rat LDLo:204 mg/kg	JPETAB 38,161,30
ipr-mus LD50:120 mg/kg	COREAF 256,1043,63
orl-dog LDLo:300 mg/kg	HBAMAK 4,1289,35
scu-dog LDLo:80 mg/kg	HBAMAK 4,1289,35
ivn-dog LDLo:300 mg/kg	EQSSDX 1,1,75
scu-cat LDLo:100 mg/kg	HBAMAK 4,1289,35
scu-rbt LDLo:300 mg/kg	HBAMAK 4,1289,35
ivn-rbt LDLo:50 mg/kg	EQSSDX 1,1,75
scu-frg LDLo:1600 mg/kg	HBAMAK 4,1289,35

Carcinogenic Determination: Animal Positive IARC** 23,325,80; Human Suspected IARC** 23,325,80. *Toxicology Review:* ADTEAS 5,51,72; ENVRAL 13,36,77; 85DHAX Pb,256,72. OSHA Standard: Air: TWA 200 ug(Pb)/m3 (SCP-O) FEREAC 29,23540,74. Occupational Exposure to Inorganic Lead recm std: Air: TWA 0.10 mg(Pb)/m3 NTIS**. Reported in EPA TSCA Inventory, 1980.

THR: MUT data. An exper + CARC, TER, ETA. A susp hmn CARC; HIGH ipr, orl, scu, ivn. See also lead compounds. A poison. An insecticide.

Disaster Hazard: When heated to decomp it emits tox fumes of Pb.

Incomp: $KBrO_3$; acids, sol sulfates, citrates, tartrates, chlorides, carbonates, alkalies, tannin phosphates, resorcinol, salicylic acid, phenol, chloral hydrate, sulfites, vegetable infusions, tinctures.

For further information see Vol. 1, No. 4 of *DPIM Report.*

LEAD ACETATE, BASIC

CAS RN: 1335326 NIOSH #: OF 8750000
mf: $C_4H_{10}O_8Pb_3$; mw: 807.71

HANDBOOK OF TOXIC AND HAZARDOUS CHEMICALS AND CARCINOGENS

Second Edition

by

Marshall Sittig

Princeton University

np NOYES PUBLICATIONS

Park Ridge, New Jersey, U.S.A.

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The Condensed Chemical Dictionary

TENTH EDITION

Revised by

GESSNER G. HAWLEY

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The Basic Science of Poisons

SECOND EDITION

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London

Time In 1015

Time Out _____

Reference 17

9/15/76

FACILITY INSPECTION WORK SHEET

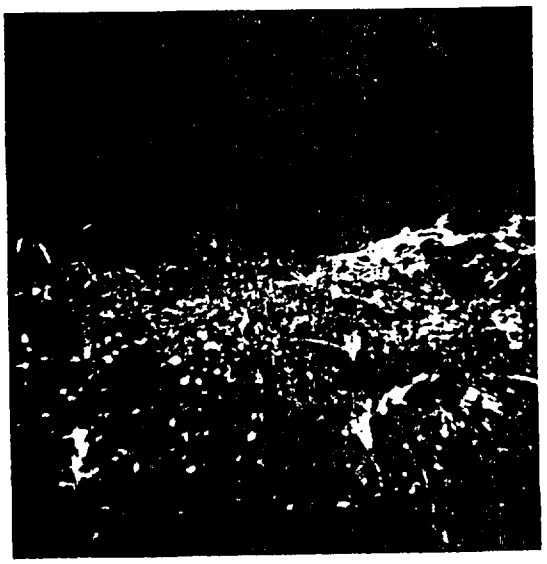
Source Name STAG'S RADIATOR Source No. 331

☐ Checked Permit Conditions ☑ Checked Emission Point Data Sheet

Utilized Inspection Point Sheet No. ____ Problem Points ____ ____ ____ ____ ____

Present Pollution Control Device Efficiency ____

1. FRENCH DRAIN W/PIT Yes ✓ No ____ 4.
2. PIT (EAST SIDE) Yes ✓ No ____ 5.
3. _____ Yes ____ No ____ 6.



Comments regarding problem points, corrective

Problem Points (where): NEW DRAIN SYSTEM

THIS TIME — NEW PIT, 8'X8'X36' DEEP,

BOARD TO PREVENT CAVE-IN OF SIDES — F

DRUM INTO WHICH WASTE WATER FLOWS & THE

~~Corrective Action's (what)~~: WITH TWO 4X8'

AREA SURROUNDING NEW PIT IS DRY - SI

ORIGINAL PIT, EAST SIDE OF SHOP, STILL ACCEPTING WASTE FROM SHOP - WASTE IS

PUMPED TO WEST SIDE SYSTEM FROM THIS PIT —

Compliance (when): _____

Person Contacted: HAROLD JACKSON RADIATOR REPAIRMAN
Title

Next Contact Date: 10-15-76 Ray Walker
Inspector

OFFICE USE ONLY

Referred to: ☐ Air ☐ Water (Engineering) Date: _____

N.O.V. Sent: ☐ Yes ☐ No Date: _____

Time In 1025

Time Out 1100

Date 6-24-77

Reference 18

FACILITY INSPECTION WO. ____

Source Name STAGGS RADIATOR Source No. 331

☐ Checked Permit Conditions ☒ Checked Emission Point Data Sheet

Utilized Inspection Point Sheet No. ____ Problem Points ____ ____ ____ ____ ____

Present Pollution Control Device Efficiency

1. FRENCH DRAIN	Yes ✓	No ____	4. ____	Yes ____	No ____
2. OUTSIDE SPRAY BACK	Yes ✓	No ____	5. ____	Yes ____	No ____
3. STEAM CLEANER	Yes ____	No ____	6. ____	Yes ____	No ____

Comments regarding problem points, corrective action and compliance schedule:

Problem Points (where): NO CHANGE IN OPERATIONAL STATUS OF FACILITY SINCE LAST INSPECTION OF 3-21-77. FRENCH DRAIN APPEARS TO BE OPERATING NORMALLY AT INSP. STEAM CLEANER NOT IN OPERATION. RADIATORS ARE BEING DRAINED OF RUSTY WATER ON SCRAP AREA ALONG N. SIDE OF SHOP. NO PROB OBSV.

Corrective Action (what): → NONE REQ. REQUIRED

Compliance (when): —

Person Contacted: JAY THOMS OWNER
Title

Next Contact Date: 9-24-77 P. JOSEPHSON
Inspector

OFFICE USE ONLY

Referred to: ☐ Air ☐ Water (Engineering) Date: ____

N.O.V. Sent: ☐ Yes ☐ No Date: ____

PC 229

Time Out 3:25

Date 12-27-77

Reference 19

FACILITY INSPECTION WOR

Source Name Stagg's Auto Radiator Source No. 33V

N/A
☐ Checked Permit Conditions ☑ Checked Emission Point Data Sheet

Utilized Inspection Point Sheet No. ____ Problem Points ____ ____ ____ ____ ____

Present Pollution Control Device Efficiency

1. French drain Yes ✓ No ____ 4. ____ Yes ____ No ____
2. Outside Spray area Yes ✓ No ____ 5. ____ Yes ____ No ____
3. ____ Yes ____ No ____ 6. ____ Yes ____ No ____

Comments regarding problem points, corrective action and compliance schedule:

Problem Points (where): Radiator wash water still draining to gravel & dirt alley in front of shop. French drain shows no problems at present. Steam cleaner not in use. Mr. Jackson advised there have been no changes in last 3 mos.

Corrective Action (what): None presently necessary

Compliance (when): N/A

Person Contacted: Harold Jackson Employee
Title

Last Contact Date: 12-27-77 Steinmeyer
Inspector

OFFICE USE ONLY

Referred to: ☐ Air ☐ Water (Engineering) Date: ____

NPDES: ☐ Yes ☐ No

Time Out 1220

Date 11/15/78

Reference 20

FACILITY INSPECTION

Source Name Stag's Radiator Source No. 331

☐ Checked Permit Conditions ☐ Checked Emission Point Data Sheet

Utilized Inspection Point Sheet No. ____ Problem Points ____ ____ ____ ____ ____

Present Pollution Control Device Efficiency

1. French Drain Yes ✓ No ____ 4. ____ Yes ____ No ____
2. Spray Area Yes ✓ No ____ 5. ____ Yes ____ No ____
3. ____ Yes ____ No ____ 6. ____ Yes ____ No ____

Comments regarding problem points, corrective action and compliance schedule:

Problem Points (where): Spraying done outside Bldg against wall. Pump for drainage system has been removed for repairs. Next inspector should check efficiency of new pump/drainage system. No problems noted.

Corrective Action (what): None.

Compliance (when): N/A

Person Contacted: Mr. Orenstein Employee
Title

Next Contact Date: 2/15/79 T. Coppola
Inspector

OFFICE USE ONLY

Referred to: ☐ Air ☐ Water (Engineering) Date: ____

N.O.V. Sent: ☐ Yes ☐ No Date: ____

PC 229

Time In 11:30

Time Out 12:00

Date 6-26-79

Reference 21

FACILITY INSPECTION W

Source Name Stag's Radiator Source No. 331

☐ Checked Permit Conditions ☒ Checked Emission Point Data Sheet

N/A

Utilized Inspection Point Sheet No. ____ Problem Points ____ ____ ____ ____ ____

Present Pollution Control Device Efficiency

1. Drainfield (outside bldg.) Yes X No ____ 4. ____ Yes ____ No ____
2. Spray rock (inside) Yes X No ____ 5. ____ Yes ____ No ____
3. ____ Yes ____ No ____ 6. ____ Yes ____ No ____

Comments regarding problem points, corrective action and compliance schedule:

Problem Points (where): NEW LOCATION and NEW DATA SHEET

Corrective Action (what): ——

Compliance (when): ——

Person Contacted: Dave Crain Mgr. (Title)

Next Contact Date: 9-20-79 B. Jetter (Inspector)

OFFICE USE ONLY

Referred to: ☐ Air ☐ Water (Engineering) Date: ____

N.O.V. Sent: ☐ Yes ☐ No Date: ____

PC 229

Time In: ___

Time Out: 1330

Date: ___

[redacted]

Reference 22

FACILITY INSPECTION WOR...

Source Name: Stag's Radiator Source No. 3-1

[X] Checked Permit Conditions [X] Checked Emission Point Data Sheet

Utilized Inspection Point Sheet No. ___ Problem Points ___ ___ ___ ___

Present Pollution Control Device Efficiency

1. Spray Rack Yes X No ___ 4. ___ Yes ___ No ___
2. Drainfield Yes X No ___ 5. ___ Yes ___ No ___
3. ___ Yes ___ No ___ 6. ___ Yes ___ No ___

Comments regarding problem points, corrective action and compliance schedule:

Problem Points (where): observed both spray rack & Drainfield reveal no particulates emission, also no leaks or spill.

Corrective Action (what): N/A

Moved to 2804 NW 30 Ave

Compliance (when): N/A

Person Contacted: Dave Crain MGR
Title

Next Contact Date: ~~Jan~~ April 30, 1981 P.R. Shelton
Inspector

OFFICE USE ONLY

Referred to: [ ] Air [ ] Water (Engineering) Date: ___

N.O.V. Sent: [ ] Yes [ ] No Date: ___

PC 229

Date 1/20/81 EQ Staff J. Capp... (17) 1CC4 ... Zone ... 1/20/81

~~THAVE~~ MOVED

1. Source Name Stags Radiator ~~(...)~~

Reference 23

[redacted]

2. ~~Address 2868 ... Blvd~~
Street 2804 N.W. 30 AVE

HAVE ONLY ONE LOCATION

Mailing Address (if different) Above
Street City & State Zip

3. Name of Principle Jay Thomas Title Owner Phone 485-5300 ~~587-7744~~

4. Person Contacted Dave Green Name Title Mgr. Phone 485-5300 ~~587-7744~~

5. Type Operation Radiator Repair SIC#

6. Processes Employed Flush out, caustic wash, Soldering, Spray paint.

7. On Public Sewers ____ Yes ✓ No ____ POTW

8. Disposal of Industrial Effluent and Treatment Supernatants + Rinse Solutions to drainfield - Sludge from test tanks to dumpster.

9. Special Treatment for Conc. Wastes 75 gal of test tank bottoms to dumpster.

10. Processing Tanks (not rinses) Size and Solution

Caustic Wash
Flush Rack
2 - Test Tanks

11. Total Processing Water Usage Well water used - High Volume

12. Sludge Generated and Materials Disposal

Quan/Month	Type	Disposal Means
Flush Rack → Septic tank (55 gal drum) →		drainfield
↳ Solids to dumpster 50 gal/yr.		
[illegible]) Test tank → Solder reclaimed - 150 lbs/yr		drained to Septic tank → drainfield.
2nd Test tank (25 gal/yr) → dumpster - 5/op		

WM

EQCB NOTES Drainfield blocked up - all rinses + tank discharges directed to ground surface on South side of bldg.
< note: Issued "suggestion" that drainfield be reconnected before scheduled enforcement inspection is made

ON PG 10

Time Out 1345

Z [redacted]

Reference 24

FACILITY INSPECTION REPORT

Source Stage Radiator Source No. 331

Potential Pollution Emission Pts. *(Problem)	Control Equipment(E)/Procedures(P)			
1.	In Use__	Not In Use__	Effective__	Ineffective__
2.	In Use__	Not In Use__	Effective__	Ineffective__
3.	In Use__	Not In Use__	Effective__	Ineffective__
4.	In Use__	Not In Use__	Effective__	Ineffective__
5.	In Use__	Not In Use__	Effective__	Ineffective__
6.	In Use__	Not In Use__	Effective__	Ineffective__
7.	In Use__	Not In Use__	Effective__	Ineffective__
8.	In Use__	Not In Use__	Effective__	Ineffective__

Comments: Facility was closed at this locale. No activity in bldg. Bldg locked. Sign on bldg stated that facility has moved to: 2804 W. 2nd. 30th Ave Oakland Park

Person Contacted: None Title

Next Contact Date: Inspector(s) T. Cappola

OFFICE USE ONLY

Referred To: ☐ Air ☐ Wastewater Eng. Date: REF.#

Warning Notice Issued: At Insp.___ From Office:___ Date

Citation Issued: At Insp.___ From Office:___ Date

PC 229
2-24-81 Rev.

RCRA FACILITY PERMIT APPLICATION TRACKING LOG - ACTIVE FACILITIES APPLICATION LIST 05/03/89

Facility Name / City / County	Dist	Unit Type/ Codes	Per. Type PATS No. EPA ID No.	In Tall.	NOD Sent	Response Complete	Draft Permits	Intent	Public. News./ Radio	Issued/ Expires/ Status	Comments
SOUTHERN WOOD PIEDMONT BALDWIN DUVAL	NE	LD	POST HP16-094370 FLD004053450	02/08/88	/ /	/ /	08/27/87	10/22/87 05/27/88	03/30/88	06/13/88 06/11/88	08/12/88 08/11/93 Issued	ACL INFO FROM FSU 2/5/88. SWMU PERMIT 9/28/88.
SPARKLE CORP. TAMPA HILLSBOROUGH	SW	S S02 S02	CLOS HF29-150056 FLD076813302	06/09/88	/ /	/ /	09/09/88	09/15/88	10/14/88	10/21/88 10/27/88	12/21/88 12/31/89 Issued	PROOF OF PUBLICATION (RADIO & NEWSPAPER) ISSUANCE OF PERMIT.
SPARKLE CORPORATION TAMPA HILLSBOROUGH	SW	S S01 S01	CONSTR HC29-149120 FLD982121592	05/12/88	/ /	/ /	07/26/88	08/08/88	10/31/88	11/04/88 11/06/88	12/21/88 12/31/89 Issued	DER: FAC PUBLISH NOTICE OF APPLICATION. APPLICATION ADDITIONAL SUBMITTALS. SUP TO APP/VERIFICATION OF PUBLICATION. PROOF OF PUBLICATION(NEWSPAPER & RADIO). ISSUANCE OF PERMIT.
TRAK MICROWAVE TAMPA HILLSBOROUGH	SW	LD S04	CLOS HF29-120188 FLD004093621	05/15/86	07/14/86	10/24/86 01/25/88	07/13/87	01/25/88	02/10/88 02/21/88	04/27/88 10/27/89 Issued	AS SPECIFIC CONDITIONS 3/17/87. DRAFT PERMIT 7/13/87. TRAK COMMENTS ON INTENT 2/18/88. SPECIFIC CONDITION II-8 SUBMITTAL. SPEC COND SUBMITTAL #'S V-4,VII-3 & 4. SUBMITTAL SATISFIES SPEC COND MOD OF CONDITION/EXPIRATION DATE CHANGE.
TRANS PAC INC. TIERRA VERDE ESCAMBIA	NW	S S01	CONSTR HC17-157682 APPLIED FOR	12/07/88	01/13/89	02/09/89 / /	/ /	/ /	/ /	/ / / /	/ / / /	RESPONSE TO 1ST NOD.
TRICIL RECOVERY SERVICES BARTOW POLK	SW	S S01 S02	OPER HO53-086011 FLD980729610	04/30/84	02/26/85	03/14/85 08/13/85	03/29/85 08/16/85	08/13/85	08/22/85 08/22/85	11/06/85 11/06/90 Issued	PERMIT MODIFICATION REQUESTS 11/10/86, 11/21/86. INTENT TO ISSUE(MODIFICATION).
TYNDALL AIR FORCE BASE TYNDALL AFB BAY	NW	S S01 S02	CLOS HF03-143909 FL1570024124	12/28/87	02/09/88	/ /	04/19/88	04/29/88	07/07/88	08/04/88 08/04/88 Expired	09/20/88 01/01/89 INTENT TO ISSUE. ISSUANCE OF PERMIT.	FIRST NOD 2/9/88. DRAFT PERMIT TO FAC FOR COMMENT 04/27/88
U.S. DEPARTMENT OF ENERGY LARGO PINELLAS	SW	S S02	CLOS HF52-135790 FL6890090008	06/29/87	12/31/87 02/23/88	01/25/88 03/10/88	/ /	/ /	03/23/88	04/01/88 04/01/88 Expired	05/24/88 12/31/88 2ND NOD 2/23/88.	FOR MIXED WASTE TANKS. 1ST NOD 12/31/87. RESPONSE 1/25/88.

Key: LD = Land Disposal; S = Storage; T = Treatment
S01 = Containers; S02 = Storage Tanks; S03 = Storage Waste Piles; S04 = Storage Surface Imp.
D80 = Landfills; D81 = Land Treatment; D83 = Disposal Surface Imp.
T01 = Treatment Tanks; T02 = Treatment Surface Imp.; T03 = Incinerators; T04 = Other treatmtent
OPER = Operating Permit; CLOS = Closure Permit; TOP = Temp. Operating Permit; CONSTR = Construction Permit

FACILITY ID / CONTACT PH#	FACILITY NAME / CONTACT	NOTIF DATE	MAIL STREET / LOC STREET	MAIL CITY / LOC CITY	ST / ST	MZIP / LZIP	GEN	TRN	TSD	UIC	INT	CONF	FACIL. STATUS	PERMIT STATUS
FLD002172351 3059731500	SPRAYMATION INC GRIFFIN RICHARD A GEN M*	850513	6788 NW 17TH AVE 6788 NW 17TH AVE	FT LAUDERDALE FT LAUDERDALE	FL FL	33309 33309	1							
FLD981758253 3052215769	SPRUCE CLEANERS MARTINEZ JOSE	861115	8710 SW 40 ST 8710 SW 40 ST	MIAMI MIAMI	FL FL	33165 33165	2						C119-2	
FLD067242636 8134472511	SQUARE D CO THOMPSON RICK SUPV SAFE*	800818	PO BOX 6440 2005 CALUMET ST	CLEARWATER CLEARWATER	FL FL	33518 33515	1					00		
FLD980559090 8135417744	SQUARE D CO BUCHANAN JERRY PLANT ENG	810520	PO 4000 11111 BELCHER RD 11111 BELCHER RD	PINELLAS PARK PINELLAS PARK	FL FL	33565 33565	1							
FLD115181943 3057228860	SQUIRE CLEANERS AMIEL ALAIN	850603	6301 W COMMERCIAL BLVD 6301 W COMMERCIAL BLVD	TAMARAC TAMARAC	FL FL	33319 33319	1							
FLD981031669 9047638911	ST ANDREWS CLEANERS & COIN LAUN* MARTIN JOHN R TREAS	850624	2623 W 15TH ST 2623 W 15TH ST	PANAMA CITY PANAMA CITY	FL FL	32401 32401	1							
FLD038501649 9043288340	ST AUGUSTINE BOAT WORKS INC NON NOTIFIER	860505	PO BOX 1318 ST JOHNS RIVER BARGE PORT	PALATKA PALATKA	FL FL	32077 32077	2							
FLD981471386 3059571112	ST CLOUD AUTO BODY MATTHEWS WAYNE	860519	24 E 12TH ST 24 E 12TH ST	ST CLOUD ST CLOUID	FL FL	32769 32769	2							
FLD043048008 9042271171	ST JOE CONTAINER COMPANY TAYLOR LEWIS ENV COORDI*	800819	4025 HIGHWAY 60 WEST 4025 HIGHWAY 60 WEST	LAKE WALES LAKE WALES	FL FL	33853 33853	1					00		
FLD061929238 9047528774	ST JOHNS CHEMICAL CORP JOHN HOLCOMB PLANT ENVI*	840403	PO BOX 2117 ST ROUTE 100	LAKE CITY LAKE CITY	FL FL	32056 32055	1							
FLD981480197 9043288321	ST JOHNS RIVER WATER MANAGEMENT* GIRARDIN, DAVID L PROJ *	861022	PO BOX 1429 2133 N WICKHAM RD	PALATKA MELBOURNE	FL FL	32078 32935	2						C119-2	
FLD150577823 9043288321	ST JOHNS RIVER WATER MGMT DIST GIRARDIN, DAVID L PROJ *	861022	PO BOX 1429 WEST HIGHWAY 100	PALATKA PALATKA	FL FL	32078 32078	2						C119-2	
FLD981747462 9043288321	ST JOHNS RIVER WATER MGMT DIST GIRADIN DAVID	860826	PO BOX 1429 RT 1 BOX 510	PALATKA OKLAWAHA	FL FL	32078 32679	2						C119-2	
FLD981022643 8138704570	ST JOSEPHS HOSPITAL JONES JOHN	851126	PO BOX 4227 3001 W BUFFALO AVE	TAMPA TAMPA	FL FL	33677 33607	1							
FLD991274945 3054657555	ST LUCIE PACKING CORP JACOBS WILLIAM C	801103	1900 OLD DIXIE HWY 1900 OLD DIXIE HWY	FORT PIERCE FORT PIERCE	FL FL	33450 33450	1					00		

Reference 26

FACILITY ID / CONTACT PH#	FACILITY NAME / CONTACT	NOTIF DATE	MAIL STREET / LOC STREET	MAIL CITY / LOC CITY	ST MZIP / ST LZIP	GEN	TRN	TSD	UIC	INT	CONF IN	FACIL. STATUS	PERMIT STATUS
FLD072231954 3058446300	ST MARYS HOSPITAL INC MEIRA ENRIQUE DIR ENGIN*	800818	901 45TH ST 901 45TH ST	WEST PALM BEACH WEST PALM BEACH	FL 33407 FL 33407	2					00		
FLD981751738 8133474103	ST PETE TOYOTA BELANGER PAUL	861108	3433 TYRONE BLVD 3433 TYRONE BLVD	ST PETERSBURG ST PETERSBURG	FL 33710 FL 33710	1						C119-2	
FLD037824174 8135252141	ST PETERSBURG AMC JEEP RENAULT YORK R	860918	4650 34TH ST N 4650 34TH ST N	ST PETERSBURG ST PETERSBURG	FL 33714 FL 33714	1						C119-2	
FLD069657567 8138212021	ST PETERSBURG OSTEOPATHC HOSP# FLYNN CHUCK	860117	401 15 ST N 401 15TH ST N	SAINT PETERSBURG ST PETERSBURG	FL 33733 FL 33705	2					00		
FLD981474638 8138938466	ST PETERSBURG TIMES LOPEZ KARI PURCHASING A*	860611	1301 34TH STREET N 1301 34TH STREET N	ST PETERSBURG ST PETERSBURG	FL 33713 FL 33713	1							
FLD008166639 9049682121	ST REGIS PAPER CO TRACY JUSTUS ENVIRON EN*	800818	PO BOX 87 JCT US 29 N & MUSKOGEE RD	CANTONMENT CANTONMENT	FL 32533 FL 32533	1					00		
FLD045003613 8134653413	ST REGIS PAPER CO GOSE JOHN PURCHASING MGR	800818	RR3 BOX 564F FLORIDA STATE ROUTE 70	LAKE PLACID LAKE PLACID	FL 33852 FL 33852	1					00		
FLD981478555 3054214290	STAINLESS INCORPORATED OTI WOOSTER, H R DIR	860731	125 S E 5TH COURT 125 S E 5TH COURT	DEERFIELD BEACH DEERFIELD BEACH	FL 33441 FL 33441	2						C119-2	
FLD981025281 9045758181	STANADYNE LEWIS LARRY	851106	2919 COMMONWEALTH BLVD 2919 COMMONWEALTH BLVD	TALLAHASSEE TALLAHASSEE	FL 32303 FL 32303	2							
FLD004126520 3058852528	STANDARD AUTO BUMPER CORP YACCO JOE PRESIDENT	800808	2500 WEST 3RD COURT 2500 WEST 3RD COURT	HIALEAH HIALEAH	FL 33010 FL 33010	2					00		
FLD038496147 8139559015	STANDARD AUTOMTOIVE MACHINE LEVKOFF DOUG	861108	1517 STATE ST 1517 STATE ST	SARASOTA SARASOTA	FL 33577 FL 33577	2						C119-2	
FLD000772228 3052572511	STANDARD TRANSPIPE CORP CAPPS E W TERMINAL SUPT	800816	13195 SW 288TH STREET 13195 SW 288TH ST	HOMESTEAD HOMESTEAD	FL 33033 FL 33033	1					00		
FLD981758527 9044885676	STANDARDS PORT EVERGLADES LAB HOSID WAYNE	861115	THE CAPITOL - ROOM 1003 3450 SE 18TH AVE	TALLAHASSEE FT LAUDERDALE	FL 32301 FL 33335	3						C119-2	
FLD981471014 3058637550	STANDEX ELECTRONICS PETERS ROD	860505	PO BOX 10147 3750 PROSPECT AVE	RIVIERA BEACH RIVIERA BEACH	FL 33404 FL 33404	1							
FLD981479074 3053315833	STAR BRITE CLEANERS MCDUFFIE JAMIE	861129	1201 W HWY 434 1201 W HWY 434	WINTER SPRINGS WINTER SPRINGS	FL 32708 FL 32708	1						C119-2	

Reference 27

Time In 13:15

Time Out 14:00

Date 4/26/76

FACILITY INSPECTION WORK SHEET

Source Name Stay's Radiator Source No. 331

[ ] Checked Permit Conditions [✓] Checked Emission Point Data Sheet

Utilized Inspection Point Sheet No. ____ Problem Points ____ ____ ____ ____ ____

Present Pollution Control Device Efficiency

1. Spray Cash	Yes ✓ No ____	4. ____	Yes ____ No ____
2. 55 gal drum gravel drain	Yes ✓ No ____	5. ____	Yes ____ No ____
3. ____	Yes ____ No ____	6. ____	Yes ____ No ____

Comments regarding problem points, corrective action and compliance schedule:

Problem Points (where): Three weeks ago Mr. Mincher tried to hook-up a PVC pipe to sewer of bldg to handle rinse waters from tanks. Because there is no pressure to pass water thru line, they have scrapped the idea.

Corrective Action (what): Car steam cleaning and radiator flush out are still done in parking yard area.

Compliance (when): ok.

Person Contacted: Mr. Mincher Mgr.
Title

Next Contact Date: 5-26-76 Rick Hackt
Inspector

OFFICE USE ONLY

Referred to: [ ] Air [✓] Water (Engineering) Date: 4/27/76

N.O.V. Sent: [ ] Yes [ ] No Date: ____

Time In 10:30

Time Out 10:45

Date 6/25/76

28

REFERENCE 28

FACILITY INSPECTION WOR

Source Name Stay's Laboratory Source No. 331

☐ Checked Permit Conditions ☑ Checked Emission Point Data Sheet

Utilized Inspection Point Sheet No. ____ Problem Points ____ ____ ____ ____ ____

Present Pollution Control Device Efficiency

1. Exhaust fan	Yes ✓ No ___	4. ___	Yes ___ No ___
2. French Drains	Yes ✓ No ___	5. ___	Yes ___ No ___
3. Caustic Tank	Yes ✓ No ___	6. ___	Yes ___ No ___

Comments regarding problem points, corrective action and compliance schedule:

Problem Points (where): Stay's has installed another french drain on the west side of bldg. This drain has 3' of gravel in bottom of hole, followed by concrete blocks as a base for a perforated 55 gal drum loaded with gravel. This satisfys the

Corrective Action (what): Notice of Violation issued. No other problems observed.

Compliance (when): OK.

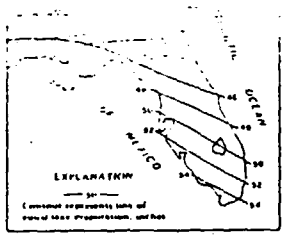
Person Contacted: Jay Thomas Owner (Title)

Next Contact Date: 7-26-76 Rick Hackett (Inspector)

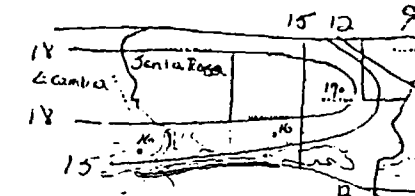
OFFICE USE ONLY

Referred to: ☐ Air ☐ Water (Engineering) Date: ____

N.O.V. Sent: ☐ Yes ☐ No Date: ____



AVERAGE ANNUAL LAKE EVAPORATION



THE DIFFERENCE BETWEEN RAINFALL AND POTENTIAL EVAPORATION IN FLORIDA

By

F. W. Visher and G. W. Hughes

Prepared by
UNITED STATES GEOLOGICAL SURVEY
in cooperation with the
BUREAU OF GEOLOGY
FLORIDA DEPARTMENT OF NATURAL RESOURCES
TALLAHASSEE, FLORIDA

1969
SECOND EDITION 1998

Rainfall in Florida is generally abundant, but man generally has little opportunity to control or direct the use of a large part of the total rainfall. Evaporation from land, water and plant surfaces has first call on much of the rainfall. Evaporation of the amount and areal variation of rainfall an excess of all evaporation losses is a necessary factor in determining the outflow of water from an area. Outflow is the total surface and ground water flow from an area, and is equal to the difference between rainfall on an area and actual evaporation from an area.

Present technology does not permit accurate determinations of evaporation from large areas of unrestricted soils and vegetative cover where the groundwater or water may differ and vary both in time and in space. Thus, outflow is not determined directly, but is evaluated by determining the incremental outflow that results from the excess rainfall in the area. Such an approach usually is practicable in areas where the total outflow occurs in well-defined surface channels. In Florida, however, many areas are underlain by permeable limestones aquifers which transcend surficial drainage divides and which transmit large quantities of water underground. Even though part of the water transmitted through aquifers may reappear as seeps or springs at lower downstream points, the areas or points of recharge of all the underground water cannot be determined, nor can all of the underground flow be accounted for with certainty. Thus, every analytical tool must be used to evaluate the outflow of an area. One concept which provides a convenient tool for approximating outflow from an area is the difference between rainfall and potential evaporation.

Outflow from an area can equal the difference between rainfall and potential evaporation only if water is available continually over the entire surface of the area, be it land, but available areas are largely surrounded by lakes or swamps. Furthermore, the rainfall pattern in Florida tends to maximize the overall availability of water generally to exceed with the evaporative demand. Rainfall occurs during unseasonable storm events throughout the year and is usually greatest during the warm months of the year, when evaporation demand is greatest, and least during the cold months, when evaporation demand is least. Consequently, in Florida the areal distribution of outflow should be greatly unsuay to the determination of the difference between rainfall and potential evaporation— large where the difference between rainfall and potential evaporation is large, and small where the difference is small.

Outflow cannot be less than the difference between rainfall and potential evaporation because, by definition, potential evaporation represents the maximum amount of water that can evaporate from a given area. If rainfall exceeds potential evaporation, outflow must occur in an amount at least equal to the difference between the two. Although the difference between rainfall and potential evaporation may not reflect precisely the outflow from an area, it does condense the lower limit of outflow from an area.

Potential evaporation herein is considered equivalent to evaporation occurring naturally from an extensive moist surface of water shallow; thus, the yearly potential evaporation for an area essentially equals evaporation from natural lakes within the area. The two may differ seasonally because most lakes have some capacity to store energy temporarily rather than dissipate it immediately by evaporation, or other heat transfer processes, or would a wet surface having an appreciable thickness. However, yearly lake evaporation provides a useful estimate of potential evaporation because within a year energy, moisture, and reservoirs are balanced.

The areal distribution of potential evaporation in Florida (see inset map) is from a map of lake evaporation in the United States by Kohler, Nordenson, and Baker (1959, plate 2). The lake evaporation map provides a rational expression of average yearly lake evaporation during the period 1946-55. At two evaporation stations in Florida (Hastings and Belle Glade Experiment stations), average evaporation for the period 1946-55 was virtually the same as for a longer period 1946-65; thus, evaporation for the period 1946-55 probably provides a representative long-term average for Florida.

The general reliability of the evaporation map has not been widely tested in Florida because few determinations of lake evaporation have been made since the map became available. One such determination, based on mass transfer techniques similar to those described by Harbeck (1962), was made during 1963 at Lake Helena in central Florida (Pride and others, 1966). Measured lake evaporation at Lake Helena was 53 inches compared to an average of 49 inches shown by the evaporation map for the general area involved.

During 1963, rainfall in central Florida was about 25 percent less than normal. Such a large deficiency in rainfall usually would be accompanied by a relative decrease in cloud cover and humidity as well as a relative increase in air temperatures, all of which would tend to promote evaporation. Consequently, lake evaporation during 1963 was probably greater than the long-term average for the area. The difference between the two values is within the range of probable yearly variation at a particular lake.

The values shown by the evaporation map depend on meteorological factors such as solar radiation, wind movement, air temperature, and humidity, all of which are appropriately related to lake evaporation. Thus, the values are applicable to undrained lakes as long as the lakes are openly exposed to wind movement, a requirement met by most large lakes in Florida. The same requirement may not be met by some small lakes or swamps or that may be entirely jammed by tall and dense vegetation.

Yearly potential evaporation varies only slightly compared to yearly rainfall, which in many areas of Florida ranges from about 50 percent greater than normal to about 50 percent less than normal. Although many of the excess rainfall of wet years may be carried over or soil moisture or ground to lakes or in a shallow water table, much of the excess rainfall figure out of the area and does not remain available for evaporation in subsequent years. Similarly, but in a somewhat opposite sense, the unspent supplemental by potential evaporation that cannot be used because of a lack of water during a dry year is not stored for later use but rather is dissipated. Because the yearly and seasonal imbalances between the supply and demand of water for evaporation are thus smoothed by storage, the average outflow of water tends to be greater than the difference between average rainfall and average potential evaporation—theoretical outflow can cannot during a year since rainfall may be much less than the yearly potential evaporation.

The topography and geology of an area also affect the outflow to deviate from the difference between rainfall and potential evaporation. Of prime importance are the slope of the land surface, the type of vegetative cover, and the permeability of the soil and underlying materials. Those factors which remove the rainfall to be rapidly transmitted onto streams and drained from the area, such as steep land slopes and poorly permeable soils, for example, tend to make outflow greater than the difference between rainfall and potential evaporation. Permeable soils which permit water to quickly reach a deep water table that feeds streams or springs also tend to make outflow greater than the difference between rainfall and potential evaporation simply because the water does not remain on or near the land surface to evaporate. Factors which promotes ponding and retention of water on plants, such as flat land with surface depressions, tend to reduce outflow and make it more nearly equal to the difference between rainfall and potential evaporation.

The accompanying map shows the approximate areal distribution of the difference between yearly rainfall and yearly potential evaporation for Florida. Rainfall data used were for the most part U.S. Weather Bureau normal rainfall values for the period 1931-60. For stations where "normal" values were lacking, the average rainfall for the period of record at the station was used; however, all stations so included have at least 25 years of record.

Average yearly rainfall varies appreciably in Florida—ranging from about 46 inches at Mount Dora in south Florida to about 66 inches at Dell creek Springs in north Florida—but the variations do not follow a simple observable trend. In contrast to rainfall, average yearly potential evaporation increases only slightly and somewhat uniformly from 54 inches in north Florida to about 46 inches in north Florida, as shown on the small inset map. Consequently, as the accompanying larger map, the somewhat uniform pattern of the isopleths is due more to variations in rainfall than to variations in potential evaporation. The isopleths accommodate the data for all but a few rainfall stations but the configurations of the isopleths is not accurately or adequately defined in several areas of the state. As additional rainfall data becomes available, the configurations of the isopleths may be more truly defined. Thus, the map should be interpreted only in terms of broad areal areas the average differences between rainfall and potential evaporation can be reasonably well established.

As mapped, rainfall exceeds the potential evaporation over most of Florida, but the difference varies greatly. The distribution of the difference is important in some ways with outflow, which also varies considerably across the state. However, an simple or direct relationship between the two is apparent. The effect of other hydrologic and geologic variables is great enough in some areas to obscure the effect of the difference between rainfall and potential evaporation on outflow.

The greatest differences between rainfall and potential evaporation occurs in the panhandle area of northwest Florida, where the greatest outflow in the state occurs and where the difference is from 15 to 18 inches. Surface runoff averages about 29 inches over stream basins that lie entirely or almost entirely within the panhandle area west of the Choctawhatchee River. This area is well drained by a network of streams whose basins are steep sloped relative to streams in other parts of Florida. Much of the area is covered by sandy material of variable thickness which readily passes rainfall to the shallow water table, which in turn maintains the high base flow of the streams. An aquifer underlying the shallow sand aquifer in this area ensures that most of the outflow of the area appears in streams.

In northwest Florida, the difference between rainfall and potential evaporation ranges from 1 to 9 inches or about half that for the panhandle area. In the part of the Suwannee River basin that lies entirely or almost entirely in northwest Florida, surface runoff averages about 14 inches. Large areas of northwest Florida are swampy and evaporation losses are almost equal to potential evaporation. On the other hand, large parts are not swampy and have no defined network of surface streams. Much of the rainfall on these areas presumably moves downward to the water table and reaches the main drainageways through undefined large evaporation losses.

Over a large part of central Florida, the difference between rainfall and potential evaporation is from 3 to 6 inches. In the northernmost part of this area, including principally Lake Lowery and the northern half of Polk County, there are numerous lakes and swamps. Thus, for most of this area, evaporation and transpiration should approach the evaporation potential and rainfall should approach many closely the difference between the rainfall and potential evaporation. Surface runoff from the area, as measured by many streams on the upper Withlacoochee River, the Little Withlacoochee River, and the Ocklawaha River, averages about 3 inches. Outflow is somewhat greater than the surface runoff because about a thirteen on large area for the Floridan Aquifer. Pride and others (1966) showed that for the Lower Ocklawaha area, which represents an appreciable part of central Florida, recharge to the Floridan Aquifer averages about 2 inches annually. Thus, outflow from this part of central Florida may be about 5 inches.

The most powerful area of central Florida is centered in the south by the Peace River. The Peace River heads in an area of recharge for the Floridan Aquifer, but over most of its length the river has incised downward from the Floridan Aquifer. Surface runoff from the basin averages about 12 inches as the most downstream gaging station, which probably represents the outflow from the basin, however, as the upstream 30 percent of the basin where most of the recharge occurs, natural surface runoff still averages about 10 inches. Thus, from the most powerful area where the difference between rainfall and potential evaporation ranges from 3 to 6 inches, outflow ranges from 9 inches to a maximum average to about 13 inches in a northern extreme. Part of this difference is probably due to a higher annual evaporation from lakes and swamps in the northern reaches.

In the northernmost part of the state, which includes the Caloosahatchee River basin, Lake Okeechobee, and the Everglades, the difference between rainfall and potential evaporation ranges from less than zero in the western part to 12 inches in the eastern part. The terrain in this part of the state is so flat that, for the few streams which are identifiable, drainage areas can be the most part indeterminable. Thus, the streamflow data available for this region cannot be evaluated easily in terms of runoff per unit area.

Outflow from other regions of the state was found to be always greater than the difference between rainfall and potential evaporation; consequently, that some groundwater should supply to the southern part of the state. The disparity between outflow and the difference was greatest where surface drainage by streams was efficient and where lakes and swamps were present. Outflow from the swamp and lake country in west Florida was estimated to be 9 inches for an area where the difference between rainfall and potential evaporation ranged from 1 to 6 inches. The disparity should be appreciably less for the southern part of the state where the availability of water to evaporate is much more complete for the entire area. Thus, for southern Florida, outflow probably does not exceed the difference between rainfall and potential evaporation by more than 6 inches.

Annual outflow amount or is estimated quantity from the map. In summary, the map portrays in consistent outflow from an area. Actual outflow will almost always exceed the minimum, because basin characteristics and variations in rainfall limit the availability of water for evaporation.

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Kohler, M. A., Nordenson, T. J., and Baker, D. R.
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Pride, R. W., Meyer, F. W. and Cherry, R. N.
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Stewart, H. G., Jr.
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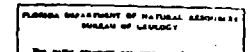

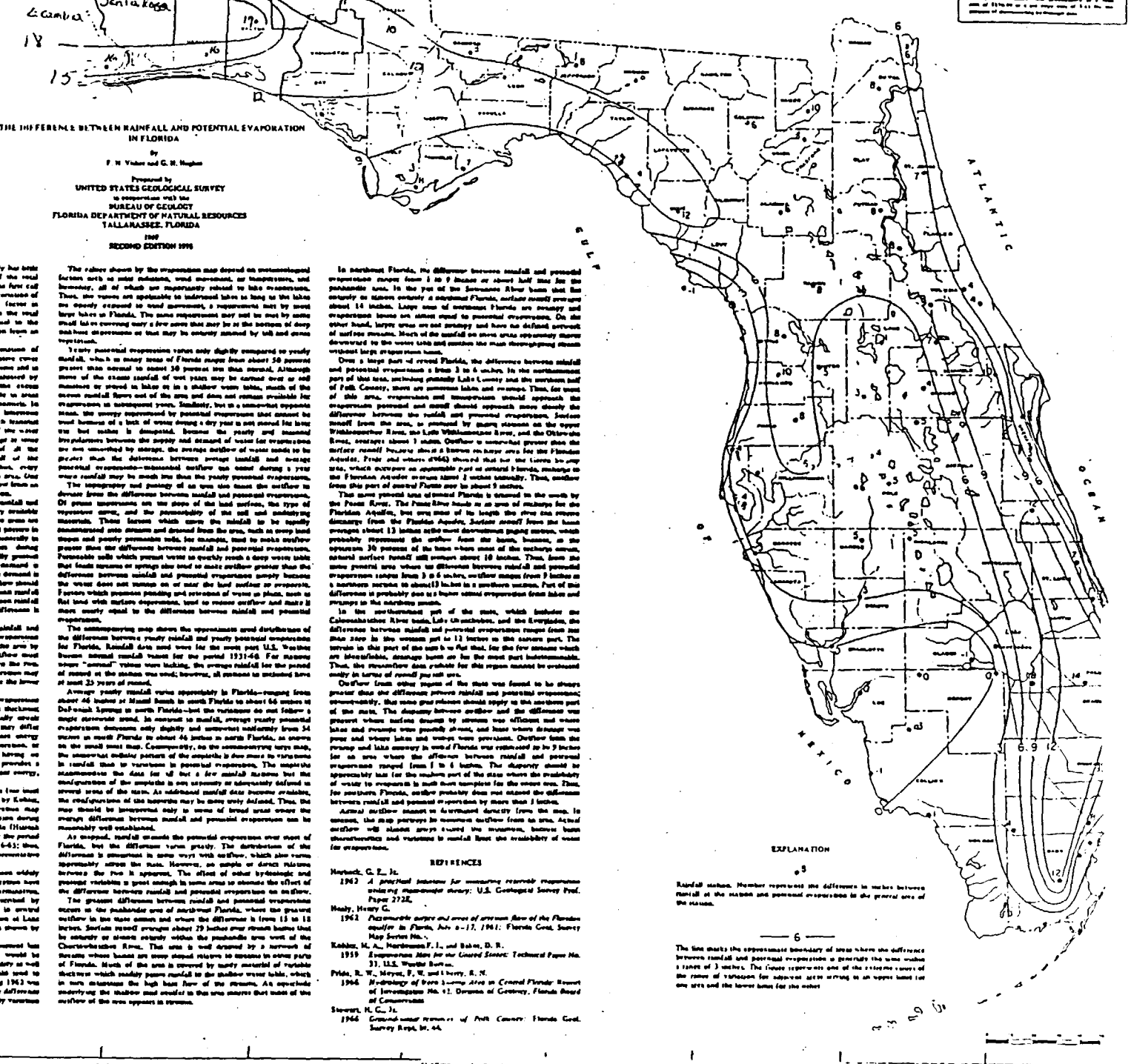

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reater Ft. Lauderdale Yellow Pages

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...nrise & Broward Blvd
...e Road 7 Pltn 584-2400

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...Av 763-3080

...LL AUTO PARTS
DISCOUNT PARTS
ALL MAKES & MODELS
...19th St 739-9870

...rted- Domestic Auto Parts
...roward Blvd 467-7393
...e See Our Display Ad Page 201)

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...TT BUICK INC
...eral Hwy Pompano Bch 781-7700

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...e See Our Display Ad Page 197)

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...EVROLET
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...OD
...CHEVROLET INC
...e Road 7 Hlwd 962-5310

...ILL
...CHEVROLET
...te Road 7 Ldhl 739-6000

...CHEVROLET THE
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...ction Continued Next Page)

...ur ad will help people find you.

WILLIAM MARKHAM, C.P.A.
BROWARD COUNTY PROPERTY APPRAISER

Broward County Governmental Center
115 S. Andrews Avenue • Room #111
Fort Lauderdale, Florida 33301-1896
Telephone: 357-6830

This is to acknowledge receipt of your recent request. The information requested is as follows:

( ) Name of Owner RICHARD & RITA CASE

( ) Address according to our records 949 HILLSBORO MILE HILLSBORO BEACH FLA 33062

( ) Real Estate Number 0101-40-001.

( ) Legal Description CASE-ACURA PLAT 125-14B PARCEL A, B, C

( ) Assessed Valuation $2,456,660.

( ) Homestead Exemption applied for in 19___.

If we can be of any further assistance, please do not hesitate to contact this office.

Very truly yours,

WILLIAM MARKHAM, CFA
Broward County Property Appraiser

Researched by _____

Date 8/2/89

RECEIVED
AUG 4 1989
BUREAU OF WASTE CLEANUP
Twin Towers

Florida Department of Environmental Regulation

Twin Towers Office Bldg. ● 2600 Blair Stone Road ● Tallahassee, Florida 32399-2400

Bob Martinez, Governor | Dale Twachtmann, Secretary | John Shearer, Assistant Secretary

July 24, 1989

Broward County Property Appraiser
701 N. Federal Highway
Pompano Beach, Florida 33060

Dear Sirs:

Please, identify the owner of the property located at 941 N.W. 40th Avenue, in Plantation. The property is presently occupied by Global Import Auto Parts and formerly occupied by Stag's Auto Radiator. I have enclosed 2 maps to help you locate the site.

Thank you.

Sincerely,

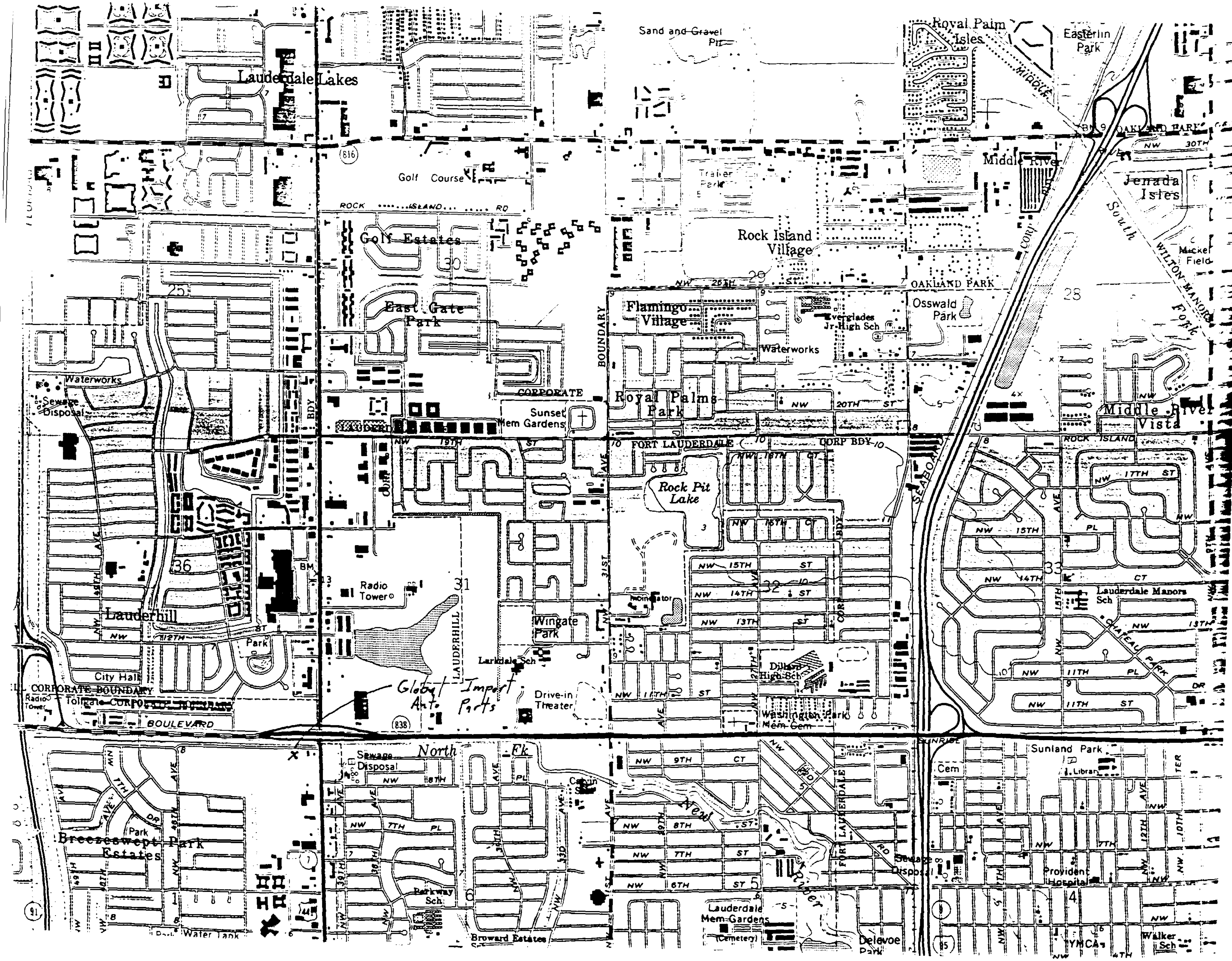
Craig F. Feeny

Craig F. Feeny
Environmental Specialist II
Bureau of Waste Cleanup

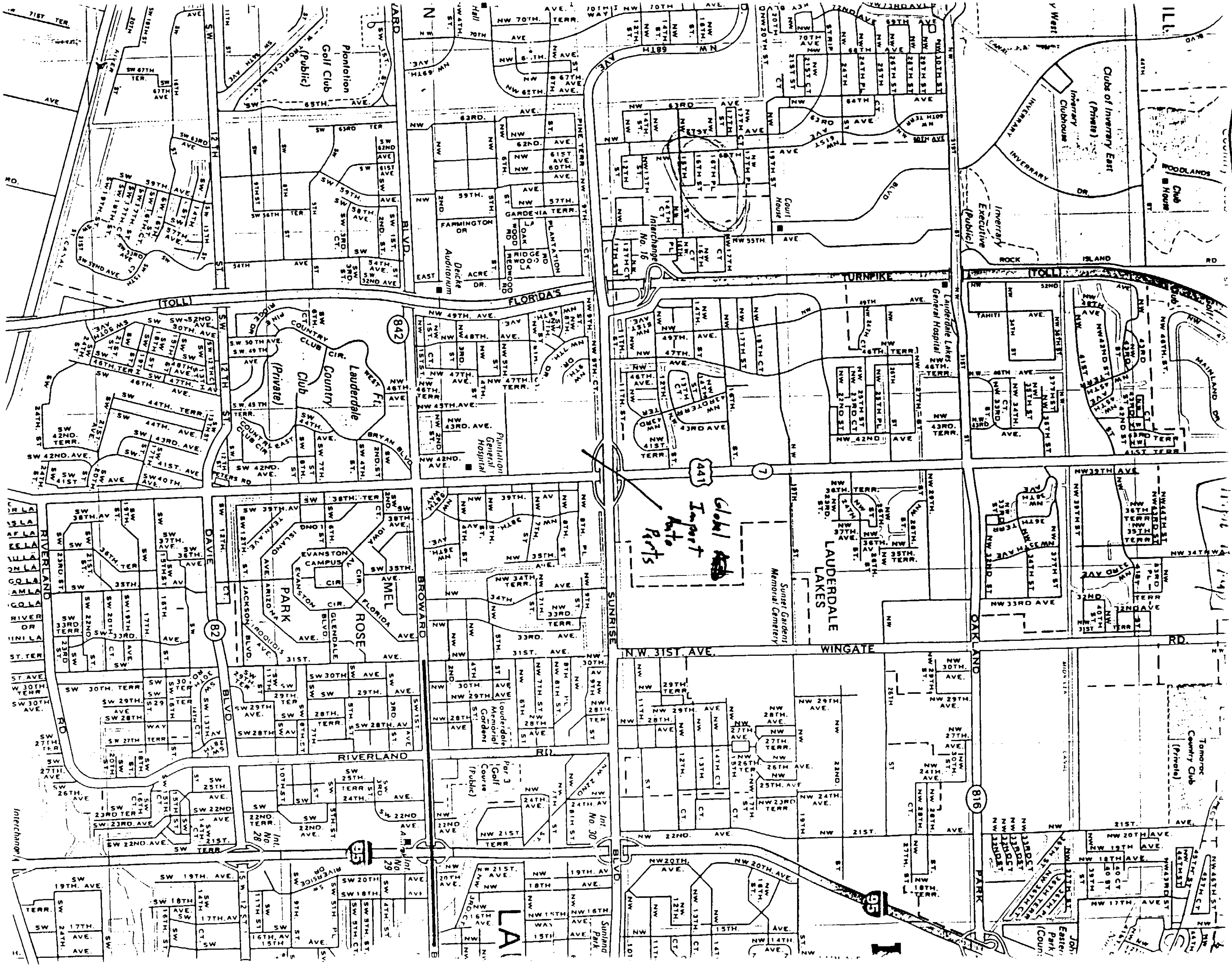
CFF/mlr

Enclosure

BUREAU OF WASTE CLEANUP
Twin Towers



Lauderdale Lakes
Royal Palm Isles
Easterlin Park
Sand and Gravel Pit
Golf Course
Trailer Park
Middle River
Jenada Isles
South Fork
ROCK ISLAND RD
Golf Estates
Rock Island Village
Wilton Manors
Mickel Field
OAKLAND PARK
East Gate Park
Flamingo Village
Osswald Park
Everglades Jr High Sch
Waterworks
Sewage Disposal
CORPORATE
BOUNDARY
Royal Palms Park
Sunset Mem Gardens
Middle River Vista
FORT LAUDERDALE CORP BDY
Rock Pit Lake
SEABOARD
Radio Tower
LAUDERHILL
Lauderhill
Wingate Park
Larkdale Sch
Lauderdale Manors Sch
Park
City Hall
Dillard High Sch
Drive-in Theater
CORPORATE BOUNDARY
Radio Tower
Tollgate
BOULEVARD
Washington Park Mem Cem
SUNRISE
Global Import Auto Parts
North Fk
New River
Sunland Park
Cem
Library
Breezeswept Park Estates
Parkway Sch
Calvin Sch
Provident Hospital
Lauderdale Mem Gardens (Cemetery)
Water Tank
Broward Estates
Delevoe Park
YMCA
Walker Sch



Global Import Auto Parts
Plantation Golf Club (Public)
FLORIDA'S TURNPIKE (TOLL)
842
441
7
82
816
95
Ft. Lauderdale Country Club (Private)
COUNTRY CLUB CIR.
Deicke Auditorium
Plantation General Hospital
Lauderdale Lakes General Hospital
Interchange No. 16
Court House
Clubs of Inverrary East (Private)
Inverrary Clubhouse
Inverrary Executive (Public)
INVERRARY DR.
ROCK ISLAND RD
WOODLANDS
Club House
MAINLAND DR.
LAUDERDALE LAKES
Sunset Gardens Memorial Cemetery
EVANSTON CAMPUS
MEL ROSE PARK
Lauderdale Memorial Gardens
Par 3 Golf Course (Public)
Tamarac Country Club (Private)
RIVERLAND RD
DAVIE BLVD
BROWARD BLVD
SUNRISE BLVD
OAKLAND PARK
N.W. 31ST. AVE.
WINGATE RD.
Int. No. 28
Int. No. 29
Int. No. 30
Sunland Park

STAGS AUTO RADIATOR
FLD057973646
PRELIMINARY ASSESSMENT

A. SITE DESCRIPTION. The Stags Auto Radiator site is located at 941 N.W. 40th Avenue, Plantation, Broward County, Florida. The site was a small radiator repair shop that operated in 1979 and 1980.

B. DESCRIPTION OF HAZARDOUS CONDITIONS, INCIDENTS AND PERMIT VIOLATIONS. The facility discharged rinsewater from the radiator cleaning operation into a small drainfield behind the shop. During the years of operation, Broward County inspectors did not observe violations of the county codes. A FDER inspector on July 30, 1985, however, observed evidence of past discharges of coolant and rinsewater on the ground surface.

C. NATURE OF HAZARDOUS MATERIALS. The materials present may be oil, grease, acid and paint. These materials include substances that are toxic, corrosive, flammable and volatile.

D. ROUTES OF CONTAMINATION. Possible routes of contamination include groundwater used for irrigation and other purposes, surface water and direct contact with potentially contaminated soil.

E. POSSIBLE AFFECTED POPULATION AND RESOURCES. Area resident are provided with drinking water from the Broward County system. Contamination of the public system is unliklely. Some area residents, however, use individual wells for irrigation and other purposes, possibly exposing users and wildlife to contaminants. Potentially contaminated groundwater and surface water runoff may enter nearby manmade lakes and canals including the adjacent New River, possibly exposing recreational users and wildlife to contaminants. Potentially contaminated surface water may also seep into the groundwater during periods of recharge.

F. RECOMMENDATIONS AND JUSTIFICATION. The environmental impacts associated with this site should be minimal because the facility only generated small quantities of wastes for two years. Therefore, a low priority for inspection is recommended.

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

EPA

I. IDENTIFICATION
01 STATE: FL | 02 SITE NUMBER: D057973646

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER				
Stags Auto Radiator	941 NW 40th Avenue				
03 CITY	**04 STATE**	**05 ZIP CODE**	**06 COUNTY**	**07 COUNTY CODE**	**08 CONG DIST**
Plantation	FL	33333	Broward	011	12

09 COORDINATES — LATITUDE: 26 08 00.0 | LONGITUDE: 080 12 00.0

10 DIRECTIONS TO SITE (Starting from nearest public road)

Proceed from Ft. Lauderdale on State Route 838. Exit south on U.S. Route 441. The site is immediately on the right.

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)			
Stags Auto Radiator	2804 NW 30th Avenue			
03 CITY	**04 STATE**	**05 ZIP CODE**	**06 TELEPHONE NUMBER**	
Oakland Park	FL	33333	(305) 731-9733	
07 OPERATOR (If known and different from owner)	**08 STREET (Business, mailing, residential)**			
David Crain, Manager	Same			
09 CITY	**10 STATE**	**11 ZIP CODE**	**12 TELEPHONE NUMBER**	
Same			( ) Same	

13 TYPE OF OWNERSHIP (Check one)
☒ A. PRIVATE ☐ B. FEDERAL: _____ (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER: _____ (Specify) ☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)
☐ A. RCRA 3001 DATE RECEIVED: ___/___/___ (MONTH DAY YEAR) ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: ___/___/___ (MONTH DAY YEAR) ☒ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION
☒ YES ☐ NO DATE ___/___/___ (MONTH DAY YEAR)
See "Attachment A"

BY (Check all that apply)
☐ A. EPA ☐ B. EPA CONTRACTOR ☐ C. STATE ☐ D. OTHER CONTRACTOR
☒ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: _____ (Specify)
CONTRACTOR NAME(S): _____

02 SITE STATUS (Check one)
☐ A. ACTIVE ☒ B. INACTIVE ☐ C. UNKNOWN

03 YEARS OF OPERATION
1979 (BEGINNING YEAR) | 1980 (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

The materials present may include oil, grease, acid and paint. These materials include substances that are toxic, corrosive, flammable and volatile.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

Discharges of rinsewater on the ground and into a drainfield may have contaminated on-site soil, groundwater and nearby surface water bodies.

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)
☐ A. HIGH (Inspection required promptly) ☐ B. MEDIUM (Inspection required) ☒ C. LOW (Inspect on time available basis) ☐ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)		03 TELEPHONE NUMBER
Eric Nuzie Eric S. Nuzie	Florida DER		(904) 488-0190
04 PERSON RESPONSIBLE FOR ASSESSMENT	**05 AGENCY**	**06 ORGANIZATION**	**07 TELEPHONE NUMBER**	**08 DATE**
David Troutman	N/A	E.C. Jordan Co.	(904) 656-1293	09/18/85 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

JB

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
FL	D057973646

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- [X] A. SOLID
- [ ] B. POWDER, FINES
- [X] C. SLUDGE
- [ ] D. OTHER (Specify)
- [ ] E. SLURRY
- [X] F. LIQUID
- [ ] G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS: unknown
CUBIC YARDS: unknown
NO. OF DRUMS: unknown

03 WASTE CHARACTERISTICS (Check all that apply)

- [X] A. TOXIC
- [X] B. CORROSIVE
- [ ] C. RADIOACTIVE
- [ ] D. PERSISTENT
- [X] E. SOLUBLE
- [ ] F. INFECTIOUS
- [X] G. FLAMMABLE
- [ ] H. IGNITABLE
- [X] I. HIGHLY VOLATILE
- [ ] J. EXPLOSIVE
- [ ] K. REACTIVE
- [ ] L. INCOMPATIBLE
- [ ] M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE	unknown		An unknown quantity of rinse-
OLW	OILY WASTE	unknown		water and coolant from the
SOL	SOLVENTS			radiator repair operation was
PSD	PESTICIDES			deposited onto the ground from
OCC	OTHER ORGANIC CHEMICALS			1979 to 1980.
IOC	INORGANIC CHEMICALS	unknown		
ACD	ACIDS	unknown		
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
OLW	Grease	999	DR/Spill		
OLW	Oil	999	DR/Spill		
IOC	Paint	999	DR/Spill		
ACD	Acid	999	DR/Spill		

V. FEEDSTOCKS (See Appendix for CAS Numbers) N/A

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

See attached reference list.

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
FL	D057973646

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. GROUNDWATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) — ☒ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 10,000 + — 04 NARRATIVE DESCRIPTION: The site overlies the highly permeable and shallow Biscayne aquifer. Discharges of rinsewater onto the ground and into a drainfield may have contaminated the groundwater. Potentially contaminated on-site soil may also be a source of continued groundwater contamination. Area residents may utilize individual wells for irrigation and other purposes possibly exposing humans and wildlife to contaminants. No groundwater sampling has been reported.

01 ☒ B. SURFACE WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) — ☒ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 10,000 + — 04 NARRATIVE DESCRIPTION
Potentially contaminated groundwater and surface water runoff may enter nearby man-made lakes and the adjacent New River. Potentially contaminated surface water may also seep into the groundwater during periods of recharge. No surface water sampling has been reported.

01 ☐ C. CONTAMINATION OF AIR — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION
No potential - the site is inactive.

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION
No potential - the site is inactive.

01 ☒ E. DIRECT CONTACT — 02 ☐ OBSERVED (DATE: _____) — ☒ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 10,000 + — 04 NARRATIVE DESCRIPTION
Area residents may come into contact with potentially contaminated on-site soil. Area residents may also come into direct contact with potentially contaminated surface water and groundwater used for irrigation and other purposes.

01 ☒ F. CONTAMINATION OF SOIL — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☒ ALLEGED
03 AREA POTENTIALLY AFFECTED: unknown (Acres) — 04 NARRATIVE DESCRIPTION
A FDER inspector observed soil discoloration and evidence of past surface discharges suggesting possible contamination of on-site soil. No soil sampling has been reported.

01 ☒ G. DRINKING WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) — ☒ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 10,000 + — 04 NARRATIVE DESCRIPTION
Area residents are provided with drinking water from the Broward County system. Contamination of the municipal system is unlikely.

01 ☐ H. WORKER EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION
No potential - the site is inactive.

01 ☒ I. POPULATION EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: _____) — ☒ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 10,000 + — 04 NARRATIVE DESCRIPTION
Humans may be exposed to hazardous substances via contact with potentially contaminated groundwater used for irrigation and other purposes, on-site soil and surface water.

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
FL	D057973646

II. HAZARDOUS CONDITIONS AND INCIDENTS *(Continued)*

01 ☒ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) — ☒ POTENTIAL — ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Contact with contaminants may damage plantlife.

01 ☒ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) — ☒ POTENTIAL — ☐ ALLEGED
04 NARRATIVE DESCRIPTION *(Include name(s) of species)*

Contact with contaminants may damage wildlife.

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Remote potential - these substances are not generally bioaccumulative.

01 ☒ M. UNSTABLE CONTAINMENT OF WASTES *(Spills/runoff/standing liquids/leaking drums)* — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☒ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

An FDER inspector on 7/30/85 observed evidence of past spills of rinsewater and radiator coolant on the ground surface.

01 ☐ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None reported.

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Surface water runoff may enter storm drains.

01 ☒ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) — ☒ POTENTIAL — ☐ ALLEGED
04 NARRATIVE DESCRIPTION

A FDER inspector on 7/30/85 observed evidence of possible past illegal discharges.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

None

III. TOTAL POPULATION POTENTIALLY AFFECTED: 10,000 +

IV. COMMENTS

Although Broward County inspectors did not detect any county code violations during the period of operation (1979 & 1980), a FDER inspector noted an area of soil discoloration possibly indicating on-site soil contamination.

V. SOURCES OF INFORMATION *(Cite specific references, e. g., state files, sample analysis, reports)*

See attached reference list.

STAGS AUTO RADIATOR
FLD057973646
ATTACHMENT A

DATE	AGENCY	SAMPLE	COMMENT
7/30/85	FDER	No	Windshield survey. Inspector observed evidence of possible past discharges of coolant and rinsewater.
7/2/80	BCEQCB	No	Facility inspection. No violations observed.
4/2/80	BCEQCB	No	Facility inspection. No violations observed.
1/3/80	BCEQCB	No	Facility inspection. No violations observed.
6/26/80	BCEQCB	No	Facility inspection. Inspector noted new location.

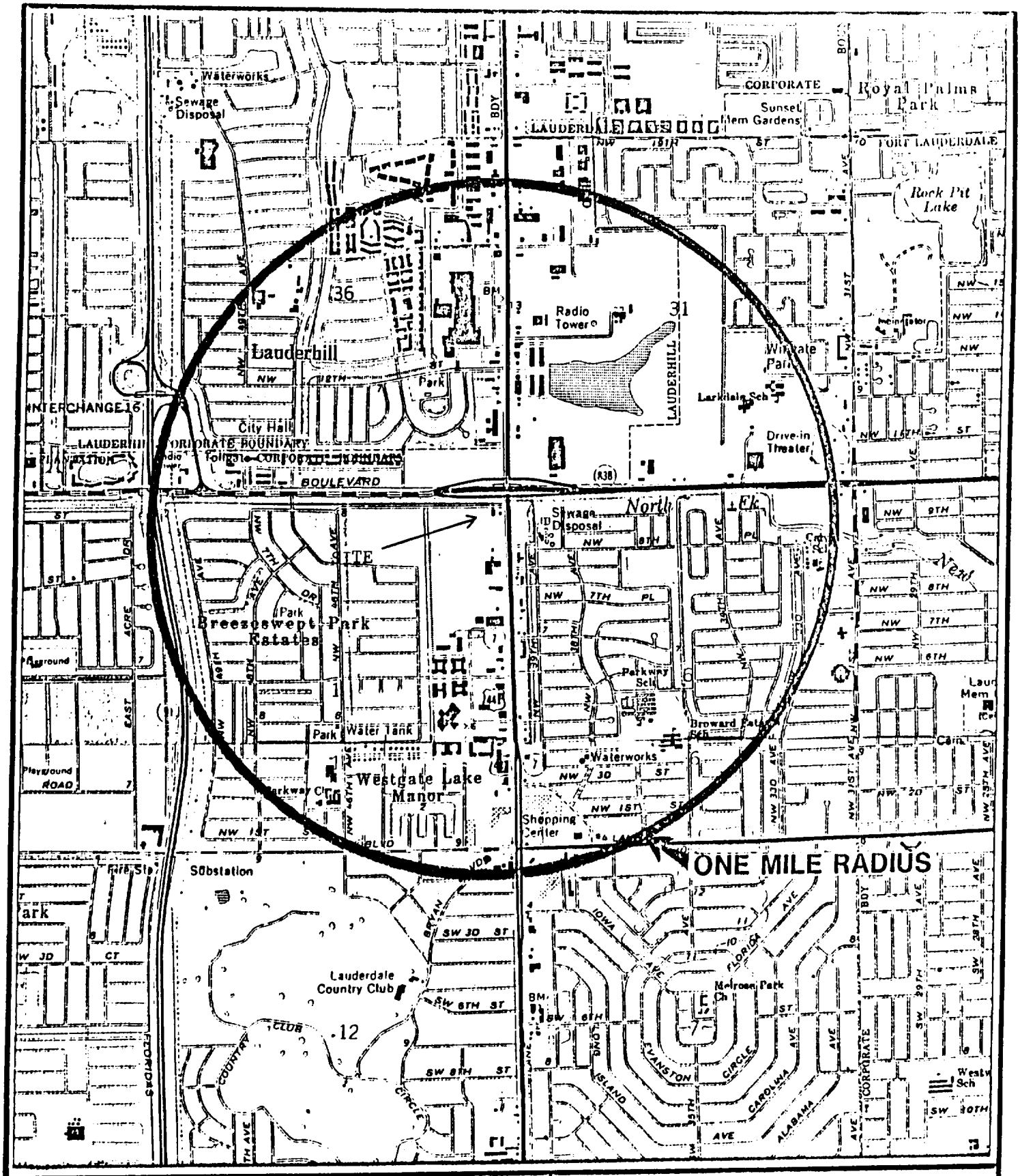


FIGURE 1
SITE LOCATION MAP

STAGS AUTO RADIATOR

BROWARD COUNTY, FLORIDA

USGS QUAD Ft. Lauderdale, North; Ft. Lauderdale, South; Ft

DATE 1983, 1983

EC JORDAN CO

REFERENCE LIST

1. Environmental Protection Agnecy, Federal Register, National Oil and Hazardous Substances Contingency Plan, Part V, July 16, 1982.

2. Farm Chemicals Handbook, Willoughby, OH; Meister Publishing Company, 1982.

3. Florida Department of Environmental Regulation, The Sites List, Summary Status Report, July 1, 1983 - June 30, 1984.

4. Florida Department of Environmental Regulation, 3012 Folder, 2600 Blairstone Road, Tallahassee, Florida. To be used for completion of Preliminary Assessment, Form 2070-12.

5. Florida Department of Natural Resources, Water Resources of Broward County, Report of Investigation No. 65, 1973.

6. Florida Division of Geology, Chemical Quality of Waters of Broward County, Florida, Report of Investigations No. 51, 1968.

7. Florida Geological Survey, Biscayne Aquifer of Dade and Broward Counties, Florida, Report of Investigation No. 17, 1958.

8. Florida Geological Survey, Groundwater Resources of the Oakland Park Area of Eastern Broward County, Florida, Report of Investigation No. 20, 1959.

9. Health and Safety Plan, Florida 3012 Program, E.C. Jordan Co., June 1984.

10. Healy, Henry G., 1977, Public Water Supplies of Selected Municipalities in Florida, 1975: U.S. Geological Survey, Water-Resources Investigations 77-53, p. 309.

11. NUS Project for Performance of Remedial Response Activities at Uncontrolled Hazardous Substance Facilities--Zone 1. NUS Corporation, Superfund Division.

12. NUS Training Manual, Project for Performance of Remedial Reponse Activities at Uncontrolled Hazardous Substance Facilities--Zone 1, NUS Corporation, Superfund Division.

13. Sax, N. Irving, Dangerous Properties of Industrial Materials, Sixth Edition, Van Nostrand Reinhold Co., 1984.

14. TLVs Threshold Limit Values for Chemical Substances in the Work Environment Adopted by ACGIH for 1983-84, American Conference of Governmental Industrial Hygienists, ISBN: 0-936712-45-7, 1983.

15. U.S. Geological Survey, Topographic Map, 1-24,000 Series.

16. Windholz, M., ed. The Merck Index, an Encyclopedia of Chemicals and Drugs, Rahway, NJ: Merck and Company, Inc., 1976.

Florida Department of Environmental Regulation

Twin Towers Office Bldg. ● 2600 Blair Stone Road ● Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

April 16, 1992

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

MR LESLIE MAGNUS
2804 NW 30TH AVE
LAUDERDALE LAKES, FL 33311

Re: **Stags Auto Radiator, FLD057973646**

Dear Mr. Magnus:

The Florida Department of Environmental Regulation, pursuant to the authority and requirements of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), 42 U.S.C. 9601 et seq., as amended by the Superfund Amendments and Reauthorization Act (SARA), Public Law 99-499, and Florida Statutes, Chapter 403, is planning to conduct a Site Screening Investigation at the above-referenced site. FDER is conducting this work under the United States Environmental Protection Agency's (EPA) pre-remedial site investigation program which requires site screening activities to be completed at all sites identified on EPA's Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS). EPA uses CERCLIS to identify sites suspected of contaminating the environment due to improper disposal of hazardous substances. The referenced site was included on CERCLIS in July, 1979.

The investigation planned at the site is being done independently from any enforcement or permit requirements normally addressed by our district office. The purpose of the investigation is to gather site specific information necessary to determine what, if any, further response action would be required to address possible contamination at the site. Please note the referenced site is not presently nor has it been recommended for inclusion on EPA's National Priorities List (NPL). The site screening investigation is the initial on-site mechanism utilized by EPA to identify those sites requiring extensive follow-up work to document a Hazardous Ranking System score which determines the eligibility for inclusion on the NPL.

This site investigation will consist of groundwater and soil sampling. If requested, arrangements will be made for splitting samples; however, you will be responsible for providing the sample bottles and subsequent analyses.

Enclosed for your review is a form for permission to enter the subject properties. Please sign and return it to me by April 23, 1992 or return it to the Project Manager on site at the time of the visit. We are tentatively planning to conduct our visit during the week of April 27, 1992. Please call us so we can discuss this matter further.

Your assistance and cooperation in this process are appreciated. If you have any questions concerning this matter or any conflicts, please call me or Joseph McGarrity at (904) 488-0190.

Sincerely,

Brian M. Moore

Brian M. Moore
Environmental Specialist II
Bureau of Waste Cleanup

BMM/dd

Enclosure

cc: Dorothy Rayfield, EPA
Paul Wierzbicki, Southeast District

PERMISSION TO ENTER PROPERTY DESCRIBED BELOW
TO CONDUCT SITE SCREENING INVESTIGATION OF:
Stags Auto Radiator, FLD057973646

1) _____("undersigned"), owner/operator, hereby gives permission to the State of Florida Department of Environmental Regulation ("Department") and its agents and contractors to enter the undersigned's property ("the property") located at 941 N.W. 40th Ave., Ft. Lauderdale, Broward County, Florida.

2) This permission is contemplated to be used for the following activities which may be performed by the Department, its agents, representatives or contractors:

   a) Access to areas where contamination may exist;

   b) The conducting of a soil, surface, sub-surface, air and groundwater investigation, including, but not limited to, the installation of groundwater monitoring wells, the use of an auger for collecting soil and sediment samples, the logging of existing wells, video taping site sketches, photographs and the like.

   c) Collecting waste, soil, water and air samples.

   d) Removal and disposal of contaminated soils and drums containing waste material.

   e) To use on the property such equipment as is necessary to perform the above activities.

3) The granting of this permission by the undersigned is not intended, nor should it be construed, as an admission of liability on the part of the undersigned or the undersigned's successors and assigns for any contamination discovered on the property.

4) The Department, its agents, representatives or contractors may enter the property during normal business hours and may also make special arrangements to enter the property at other times after agreement from the undersigned.

5) The Department acknowledges and accepts its responsibility under applicable law (Section 768.28, Florida Statutes) for damages caused by the acts of its employees while on the property.

Witness	Owner/Operator
Date	Date

Accepted by the State of Florida Department of Environmental Regulation by the following authorized agent:

Witness	Eric S. Nuzie, Environmental Manager
4/16/92 Date	4/16/92 Date

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
2600 BLAIR STONE ROAD
TWIN TOWERS OFFICE BUILDING
TALLAHASSEE, FLORIDA 32399-2400

ADDRESS CHANGE REQUESTED
400207

U S ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET N E
ATTN: Dorothy Rayfield
ATLANTA GEORGIA 30308

Protecting Florida and Your Quality of Life

Florida Department of Environmental Regulation

Twin Towers Office Bldg. ● 2600 Blair Stone Road ● Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

April 21, 1992

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

MR LESLIE MANGUS
15250 NE 8TH AVE
MIAMI, FL 33162

Re: Stags Auto Radiator, FLD057973646

Dear Mr. Mangus:

The Florida Department of Environmental Regulation, pursuant to the authority and requirements of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), 42 U.S.C. 9601 et seq., as amended by the Superfund Amendments and Reauthorization Act (SARA), Public Law 99-499, and Florida Statutes, Chapter 403, is planning to conduct a Site Screening Investigation at the above-referenced site. FDER is conducting this work under the United States Environmental Protection Agency's (EPA) pre-remedial site investigation program which requires site screening activities to be completed at all sites identified on EPA's Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS). EPA uses CERCLIS to identify sites suspected of contaminating the environment due to improper disposal of hazardous substances. The referenced site was included on CERCLIS in July, 1979.

The investigation planned at the site is being done independently from any enforcement or permit requirements normally addressed by our district office. The purpose of the investigation is to gather site specific information necessary to determine what, if any, further response action would be required to address possible contamination at the site. Please note the referenced site is not presently nor has it been recommended for inclusion on EPA's National Priorities List (NPL). The site screening investigation is the initial on-site mechanism utilized by EPA to identify those sites requiring extensive follow-up work to document a Hazardous Ranking System score which determines the eligibility for inclusion on the NPL.

This site investigation will consist of groundwater and soil sampling. If requested, arrangements will be made for splitting samples; however, you will be responsible for providing the sample bottles and subsequent analyses.

Enclosed for your review is a form for permission to enter the subject properties. Please sign and return it to me by May 8, 1992. We are tentatively planning to conduct our sampling investigation during late May or early June 1992. You will be notified in advance of the date.

Your assistance and cooperation in this process are appreciated. If you have any questions concerning this matter or any conflicts, please call me or Joseph McGarrity at (904) 488-0190.

Sincerely,

Brian M. Moore

Brian M. Moore
Environmental Specialist II
Bureau of Waste Cleanup

BMM/dd

Enclosure

cc: Dorothy Rayfield, EPA
Paul Wierzbicki, Southeast District

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Witness	Owner/Operator
Date	Date

Accepted by the State of Florida Department of Environmental Regulation by the following authorized agent:

Brian M. Moore	Eric S. Nuzie
Witness	Eric S. Nuzie, Environmental Manager
4/23/92	4/23/92
Date	Date

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
2600 BLAIR STONE ROAD
TWIN TOWERS OFFICE BUILDING
TALLAHASSEE, FLORIDA 32399-2400

ADDRESS CHANGE REQUESTED
40207

Dorothy Rayfield

Protecting Florida and Your Quality of Life

WPB

U S ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET N E
ATLANTA GEORGIA 30308

M.2 - SITE MAINTENANCE FORM

EPA ID: FLD057978646

SITE NAME: STAGS AUTO RADIATOR SOURCE: R

STREET: 941 NW 40TH AVENUE CONG DIST: 12

CITY: FORT LAUDERDALE ZIP: 88888

CNTY NAME: BROWARD CNTY CODE: 011

LATITUDE: 26/07/18.0 LONGITUDE: 080/18/36.0

SMSA: 2680 HYDRO UNIT: 03090202

INVENTORY IND: Y REMEDIAL IND: Y REMOVAL IND: N FED FAC IND: N

NPL IND: N NPL LISTING DATE: NPL DELISTING DATE:

APPROACH: SITE CLASS:

SITE/SPILL IDS:

RPM NAME: DENISE BLAND RPM PHONE: 404-881-2234

DIOXIN TIER: REG FLD1: REG FLD2:

RESP TERM: PENDING ( ) NO FURTHER ACTION ( )

ENF DISP: NO VIABLE RESP PARTY ( ) VOLUNTARY RESPONSE ( )
ENFORCED RESPONSE ( ) COST RECOVERY ( )

SITE DESCRIPTION:

ACTION: _

PENDING (_) NO FURTHER ACTION (_)

M.2 - PROGRAM MAINTENANCE FORM

* ACTION: _ *

SITE: STAGS AUTO RADIATOR

EPA ID: FLD057973646 PROGRAM CODE: H01 PROGRAM TYPE: * _ *

PROGRAM QUALIFIER: ALIAS LINK : * ___ ___ *

PROGRAM NAME: SITE EVALUATION * _____ *

DESCRIPTION:

* _____ *
* _____ *
* _____ *
* _____ *

M.2 - EVENT MAINTENANCE FORM

* ACTION: _ *

SITE: STAGS AUTO RADIATOR
PROGRAM: SITE EVALUATION

EPA ID: FLD057973646 PROGRAM CODE: H01 EVENT TYPE: DS1

FMS CODE: EVENT QUALIFIER: EVENT LEAD: E * _ ___ _ *

EVENT NAME: DISCOVERY STATUS: * _____ _ *

DESCRIPTION:

* _____ *
* _____ *
* _____ *
* _____ *

ORIGINAL	CURRENT	ACTUAL			
START:	START:	START:	* __/__/__	__/__/__	__/__/__ *
COMP :	COMP :	COMP : 79/07/01	* __/__/__	__/__/__	__/__/__ *

HQ COMMENT:

* _____ *

RG COMMENT:

* _____ *

COOP AGR #	AMENDMENT #	STATUS	STATE %			
			* _____	_____	_	___ *

M.2 - EVENT MAINTENANCE FORM

* ACTION: _ *

SITE: STAGG AUTO RADIATOR
PROGRAM: SITE EVALUATION

EPA ID: FLD057978646 PROGRAM CODE: H01 EVENT TYPE: PA1

FMS CODE: EVENT QUALIFIER: EVENT LEAD: S * _ ___ _ *

EVENT NAME: PRELIMINARY ASSESSMENT STATUS: * _____ _ *

DESCRIPTION:

* _____ *
* _____ *
* _____ *
* _____ *

ORIGINAL	CURRENT	ACTUAL			
START:	START:	START: 85/09/28	__/__/__	__/__/__	__/__/__
COMP :	COMP :	COMP : 85/09/28	__/__/__	__/__/__	__/__/__

HQ COMMENT:

* _____ *

RG COMMENT:

* _____ *

COOP AGR #	AMENDMENT #	STATUS	STATE %		
_____	_____	_	___		